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LOUISIANA Conservationist

LOUISIANA WILD LIFE AND FISHERIES COMMISSION

MAY
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May-June
1969

Conservation Pledge

I give my
pledge as an American
to save and faithfully to
defend from waste the
natural resources of
my country—its soil
and minerals, its
forests, waters
and wildlife

Published Bi-Monthly in the interest of conservation of Louisiana's natural resources by the Wild Life and Fisheries Commission, P. O. Box 44095, Capitol Station, Baton Rouge, Louisiana 70804.

Crawfish time is crawfish time in Louisiana; and when they are boiled with hot seasoning, they are an epicurian delight to practically every person in Louisiana. This is true of many other persons in distant states and foreign countries. For a young girl, however, holding a large one by its whiskers is a squirmish moment. The girl on the cover accommodated the photographer with mingled emotions.

(Photograph by Robert Dennie)

LOUISIANA Conservationist

LOUISIANA WILD LIFE AND FISHERIES COMMISSION
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Conservationist EDITORIAL

LOUISIANA'S industrial, wildlife and fisheries resources face a crisis! The crisis is so tremendous in scope that those at the March meeting of the Commission were shocked by the cold, hard facts.

The facts are that the State of Texas has spent $5,461,730 since 1964 in its overall "water plans" which include diversion of water in the Mississippi River to Texas. At the present time, the Texas Senate is considering approval of $11.5 million coupled with a companion bill in the House seeking $11.1 million for the next two years. The funds would cover all water projects in Texas, including planning diversion.

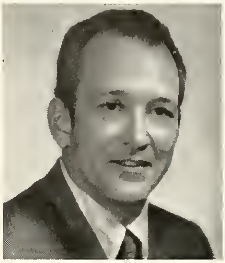
The gravity of such water diversion was brought into sharp focus by the revelation that the Texas Legislature had prepared a bill, subject to referendum vote, to raise the authority for the state's bonded indebtedness from $200 million to $3.5 BILLION—primarily to implement the diversion of Mississippi River waters to Texas.

I do not feel that I should deal at length with the problems that would confront existing, and proposed, industries located from New Orleans northward and southward on both banks of the river with salt water intrusion into the river as far as the spread-fingers mouths and passes. It would be an industrial body blow to those already located, as well as a deterrent to new industry being courted.

As serious as this would be to the entire economy of Louisiana, it is fitting and proper for this Commission to think of the vast and unavoidable changes that would alter the entire ecology of Louisiana's coastal marshes.

The entire oyster, shrimp and fur industries would be the first to feel the impact of higher salinities in the estuarine areas. It is the mingled combination of fresh water and salt water that has nurtured the estuaries for generations untold. Those nursery grounds are the greatest producers of shrimp in the country—not only for Louisiana shrimpers, but also for boats operating from Texas, Mississippi and Alabama. Young shrimp cannot live in waters of high salinity. If it were otherwise the Louisiana's estuaries would not be considered among the most important in the world for shrimp production.

Oyster beds, considered the finest in the country, would be in the same predicament. Production would dwindle off, and in many cases would cease to exist.



CLARK M. HOFFPAUER
Director

Sport fisheries would be damaged greatly, for the estuaries I mention are also the nursery grounds for many of the popular salt water species, spawned in those coastal bays and lakes and reaching maturity in brackish, but not salt water.

Coastal marshes would undergo the greatest changes. We have complained about the lacework of oil company canals that increasingly compound present efforts to keep the marshes as fresh water ones. Today's laments about this condition would be magnified a thousand-fold. Like cancer eating away, diversion of fresh water from the Mississippi River and its tributaries would mean that Louisiana's marshes would become salt water marshes.

This would be of great detriment to the fur industry. In their present form, these marshes are the country's foremost fur producing areas, providing income for many families who are dependent on furbearing animals.

The Atchafalaya Basin, one of the most scenic and among the last of the wilderness areas in the country, would also be effected. Its flow of water is dependent on the amount of water that streams down the coffee-colored Mississippi River. It is in danger now, because of flood control work that is sometimes executed without regard to wildlife and fisheries resources, both commercially and recreationally important to the people of Louisiana.

Of great importance is what a massive diversion of water to arid areas of Texas would do to waterfowl. In the winter, Louisiana is host to approximately 20 to 25 percent of the continental supply of waterfowl. It is the most important wintering state in the country and to have its marshes turned entirely into salt water ones would be the worst blow to waterfowl possible.

This is no light matter and it is necessary that we immediately organize a task force to combat this menace to industry, wildlife and fisheries resources. There is little time to be lost. Texas has taken the initiative and Louisiana must prepare to meet this threat. ✠

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Bird of the Month ....**Inside Back Cover**

Aerial photograph of a typical scene in coastal Louisiana. Areas such as this serve as nursery grounds for small shrimp, crabs, and many species of fish. Such areas must be preserved in their natural state if the perpetuation of these species is to be maintained.

ESTUARIES

William S. Perret

ESTUARIES THREATENED: Recently, numerous articles have appeared in various magazines, newspapers, and numerous scientific journals, dealing with this subject. Though estuaries have always been important, only now is there so much public concern about them. Why is this so at this time? Perhaps because estuarine degradation is so apparent, or the economic and recreational values of these areas have only now been recognized by the public.

Nevertheless, there is growing concern over the destruction of these valuable estuaries by pollution, channel dredging, land developments, exploitation of mineral resources, and construction of flood control projects. This, in turn, has stimulated many new research programs which should produce considerable information concerning the animals, plants and composition of the estuarine environment.

Before we get any further into this subject, let us attempt to define an estuary. Though definitions are numerous, it will suffice to say that an estuary is a semi-enclosed area which serves as a mixing bowl for fresh water (often from the north) and salt water (often from the south—in our case, the Gulf of Mexico). It serves as an environment for many species of aquatic and terrestrial animals and plants. In coastal Louisiana, most people call these areas "lakes and bays".

It is a known fact that estuaries serve as important nursery areas for many species of fish and shellfish which are landed in commercial and sports fish catches. It has been estimated that approximately 90 percent of the fishes that enter into the commercial fisheries catch of the northern Gulf of Mexico are dependent upon this environment during some part of their life cycle. The commercially important white and brown shrimp, which contribute to one of North America's most valuable fishery resources, also inhabit these areas during a vital part of their life cycle. Oyster production in Louisiana is for the most part, restricted to the estuarine environment. Multiply the values received from these and other fisheries, times the importance of these areas to waterfowl, furbearers and other wildlife, and one begins to realize the tremendous importance of estuaries.

The problems involving the estuarine environment are a matter of local, state and national concern. A great stride forward was made with the passage of Public Law 88-309 by the Congress in

July, 1964. This Act provided for a federal-state cost sharing program for commerical fisheries research and development which includes numerous research efforts to evaluate the estuarine areas of the nation.

Louisiana, along with other Gulf states, is participating in a program called the "Gulf of Mexico Estuarine Inventory and Study". This project was designed to study the physical and biological characteristics of the estuarine areas of the Gulf of Mexico. It will further document the importance of these environments to commercial fisheries, and establish a base line from which the effects of estuarine alterations could be evaluated. To accomplish this, four phases of study were selected. These are: Area Description, Hydrology, Sedimentology, and Biology.

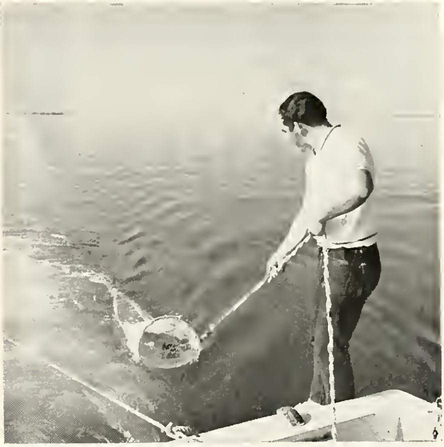
PHASE I

The Area Description phase will include a descriptive account of all estuaries along the Louisiana Coast. Priority items under this phase are as follows: (1) geographical location and description of each estuarine basin showing water volumes, channels, and depths, (2) major types of submergent and emergent vegetation, with maps showing locations and approximate acreage, (3) estimated area of the drainage basin, showing significant streams that enter the estuarine basin, (4) economic development in the area and (5) presence of industrial, domestic, or agricultural pollution in the estuarine basins.

PHASE II

The hydrology phase places emphasis on the parameters which are believed to be most important to sea life and its interrelationship with the environment. These parameters include salinity, water temperature, dissolved oxygen, tidal fluctuations, and the nutrients, phosphate, phosphorus, nitrate and nitrite.

The objectives of this sampling program are to establish the general nutrient levels in the estuaries and to give a better understanding of the characteristics and interrelationship of the various chemical and physical parameters as related to the biology of the area.



A view of the standard net used in sampling post-larval shrimp. Meter in center of the net, gives the number of revolutions made during the 10-minute tow, thus enabling the volume of water strained through the net to be calculated.

PHASE III

The sedimentology phase of our estuarine project is designed to sample every major estuary in coastal Louisiana. Objectives are as follows: (1) to provide historic records useful in detecting trends in environmental quality, (2) to describe the sediment distribution pattern and significant parameters for its development in Gulf Coast estuaries, and (3) to determine the relationship of sediment distribution and environmental parameters to estuarine resources.

The 16 ft. otter (shrimp) trawl is one type of gear used in the research program. Biological Aide is lowering net in the water to collect the sample. This is the standard type research vessel used in the estuarine study.

Results of a 10-minute sample with the 16-ft. trawl. All fishes and crustaceans collected are identified, measured and counted. Those easily recognized are: white shrimp, sea catfish, croakers and menhaden (pogies).

Sediments of the estuaries form a separate and distinct environment apart from the overlaying water column. It is believed that knowledge of the physical properties of the bottom is necessary to the study of the entire environment.

PHASE IV

The biology phase will study the life history of commercially or potentially important fishes and crustaceans for the purpose of more improved management of these natural resources, as well as, the ecological factors influencing this animal life.

In Louisiana this means an increase in scientific research throughout our coastal areas. Formerly, due to lack of funds, research was coordinated at the Marine Laboratory at Grand Terre Island and was limited chiefly to the Barataria Bay system. Passage of P.L. 88-309 provided additional funds which has made possible the expansion of research into other coastal areas of our State.

The area under investigation is from Mississippi to Texas and Gulfward from approximately the Intracoastal Canal to the near offshore waters of the Gulf of Mexico. This area was divided into separate study areas. Two areas have not been implemented due to lack of personnel and inaccessibility of the area. Each study area is staffed by a biologist, boat captain, and biological aide. Permanent sampling stations were established in each study area to cover all accessible habitat types and salinity gradients within that area.

Full implementation of six study areas was completed in October, 1966. Since this time, personnel have been actively participating in the research sampling program.

Information gained from this estuarine study will provide a more workable knowledge of the renewable marine resources in Louisiana's coastal environments. The applied value of part of the date accumulated thus far was seen in 1967 and 1968 appraisal of the outlook for brown shrimp productions. In the past, brown shrimp predictions were based principally on research done in the Barataria Bay area, and was not indicative of the populations present along the entire Louisiana Coast. Prior to the 1967 and 1968 brown shrimp seasons, however, data was available from each of the six study areas along the coast and predictions were made accordingly. In this way, personnel were able to review data from each study area, thus making possible a prediction that would be based on data collected from most estuarine areas along the Louisiana Coast.

Parameters established by this study over the coming years should be quite valuable to this industry, as well as other commercial and sport fishing interests of Louisiana and the Gulf since this estuarine area contributes so greatly to our fisheries' production. ✣

MEMORIAL FUND

Carl D. Shoemaker, noted pioneer conservationist and long-time Washington observer, died April 2 in a Winter Park, Florida hospital at the age of 86.

A 45-year veteran of the conservation movement, Shoemaker was an honorary president of the National Wildlife Federation.

He was a major force in the enactment of the Migratory Bird Hunting Stamp Act which has raised more than $100 million for Federal wildlife refuges. He made significant contributions to the enactment of the 1937 Pittman-Robertson and 1950 Dingell-Johnson Acts which have poured hundreds of millions of dollars into state wildlife programs through a Federal excise tax on the asle of sporting arms and ammunition and fishing tackle.

A former Oregon Game Commissioner, he served as secretary of the Senate Select Committee on Conservation and Wildlife Resources from 1932 to 1947. Shoemaker joined the noted wildlife artist J. N. "Ding" Darling and others in organizing the National Wildlife Federation in 1936. During much of this time, he also served as Conservation Director of the National Wildlife Federation and helped guide it through its formative years.

A special memorial fellowship fund has been established to honor the former Conservation Director and honorary president of the National Wildlife Federation. It will be used to help deserving students pursuing graduate studies in environmental ecology and conservation. At the request of his widow, the fund will be administered by the Federation as part of its grant-in-aid educational program.

Contributions should be made payable to the National Wildlife Federation and addressed to the "Carl Shoemaker Fellowship Fund," c/o the National Wildlife Federation, 1412 Sixteenth Street N.W., Washington, D.C. 20036. All contributions are tax deductible.

FLOWERING DOGWOOD

L. K. Halls and S. W. Oefinger, Jr.*

AS IF TO prepare for a gala spring opening, the yards and woods across the South don their white lace of dogwood flowers. So spectacular is the show that many communities stage annual festivals and people from far away make excursions along favorite "dogwood trails."

The showy parts of dogwood are the snow-white or rarely pink flower-like bracts that appear in early spring before the leaves are full grown. Borne abundantly, they infuse a flower garden quality into woods not yet recovered from the drab of winter.

Commonly found on a wide variety of soils, dogwood (*Cornus florida* L.) is one of the most prevalent understory hardwoods of the upland Coastal Plain in longleaf pine forests. It grows even better, however, on the moist rich loams along stream bottoms and on northern slopes.

Dogwoods are widely planted as ornamentals, and young trees suitable for yard planting are available in most commercial nurseries.

Though typically an understory species of the forest, dogwood grows and flowers most prolifically in the open. This wide range in shade tolerance adds to its versatility as an ornamental plant in the yard.

Dogwood's merits extend far beyond esthetic values. Larger trees bring a good price because the strong, shock-resistant wood enjoys a continuing market for shuttle blocks, mallet heads, and similar woodenware.

Virtually all game species and many songbirds eat dogwood fruit, which ripens in early fall and lasts through much of the winter. The fruit is a special favorite of wild turkeys, squirrels, and white-tailed deer. Leaves and twigs are also a food source for deer. Even in winter, twigs and fallen leaves may be eaten.

As a wildlife food, the most distinguishing quality of dogwood is its high calcium content. Samples collected in southern pine-hardwood forest contained 1.72 percent calcium in the leaves, 1.44 percent in twigs, and 0.89 percent in the fruits. These are well above amounts needed by game for good skeletal growth.

Dogwoods are seldom planted specifically for wildlife, but they may be a practical means of improving the game habitat in places where fruit-producing hardwoods are scarce. The first season following planting, seedlings should be cultivated to reduce competition from other plants for soil moisture. In open fields near Nacogdoches, Texas, dogwood plants cultivated during the first two years began to produce fruit at 4 years of age.

Controlled forest burning kills the tops of young dogwoods, but the rootstocks send up numerous sprouts that provide nutritious forage. Repeated fires will keep plants from attaining fruit-bearing size, but once the trees reach 10 to 15 feet in height they can withstand infrequent winter burns of low intensity. Many longleaf pine stands that have been periodically prescribe-burned during the winter support good understory stands of dogwood.

With the approach of winter the dogwood bears bright red fruits, and its lingering leaves turn red and yellow, competing with other plants in a flourish of color. ✠

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* The authors are on the staff of the Wildlife Habitat and Silviculture Laboratory, which is maintained at Nacogdoches, Texas, by the Southern Forest Experiment Station, USDA Forest Service, in cooperation with Stephen F. Austin State College.

Freshwater Fishing Areas

Kenneth E. Lantz

An ancient statement once was "all roads lead to Rome," but a modern paraphrase applicable to Louisiana might be "all roads lead to water." One cannot travel far in any section of the state before he encounters one of several types of aquatic environments that Louisiana residents utilize for domestic, commercial and recreation purposes. One of the favorite spring and summer forms of recreation of these residents is freshwater fishing.

The geographic location and topographic features of Louisiana provide a fisherman with a choice of three major freshwater fishing areas: natural lakes, impoundments, and streams.

NATURAL LAKES

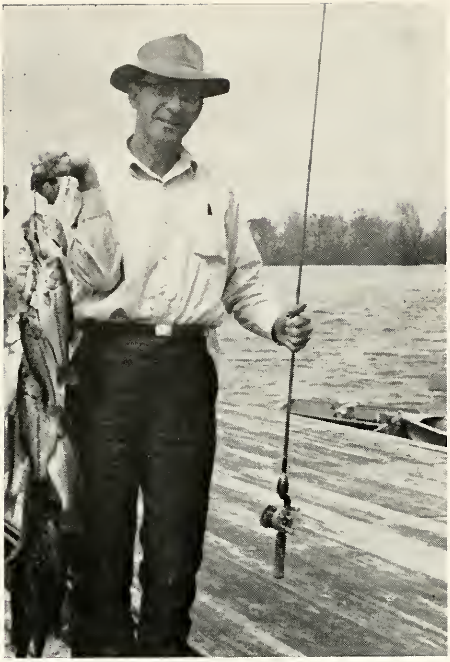
Most natural lakes of Louisiana were created by the fluvial action of one of the rivers that transverse the state. A meandering river will often create a cutoff or oxbow lake as it seeks a shorter path to the Gulf of Mexico. This same river might also overflow its natural levee during high water periods and create a series of backwater lakes in the adjacent backswamp areas. The confluence of a river with the Gulf of Mexico is often preceded by a large but shallow lake that exhibits freshwater conditions during maximum stream flow and brackish features at minimum river flow.

Changes in the channel of the Mississippi River in the past has resulted in the creation of a series of oxbow lakes from the Arkansas line southward to Baton Rouge. Examples of large cutoff lakes in this region of the state are Lake Providence, Lake St. Joseph, Lake Bruin, Lake St. John, Lake Concordia, False River and Old River in Pointe Coupee Parish. Numerous smaller oxbow lakes are found in this stretch of meandering river. These long and deep cutoff lakes support an excellent population of largemouth bass, crappie, bluegill and redear sunfish. Those oxbows that receive annual or periodic overflows from the river also obtain good runs of white bass and various commercial fish species from the adjacent stream.

The backwater lakes also receive periodic overflows from the river, but the physical features of these lakes are markedly different from the oxbows. A backwater lake is formed in the backswamp area adjacent to a river as the stream rises over its natural levee during periods of high water. These lakes may range from forty to several thousand acres in surface area. Although often large in area, these lakes are always shallow and usually studded with bald cypress, black willow and other hardwoods. Seasonal fluctuation in water levels is the usual characteristic of a backwater lake. A common modification of this natural cycle is the installation of low-water dams on the outlets to keep minimum water levels or in some instances to prevent complete drying during low water periods.

The alternate exposure and flooding of backwater lands has important effects on fish populations and fish food organisms. If flooding occurs during the spring spawning season, intra-specific and inter-specific competition for food, space and spawning territory is reduced. An excellent

Lazy bayous, shaded by moss-draped trees, are found throughout the state and offer unexcelled bass, bream and crappie fishing. About all that is needed to fill a hefty stringer with fish is time, tackle box and talent. Louisiana anglers have plenty of that, along with an amazing lacework of waterways and reservoirs in which to fish.



This fine mess of black bass came from Black Lake, one of the state's most picturesque lakes. It is located near Campti in northwest Louisiana and is part of a complex of cypress studded lakes that are both scenic and highly productive as far as fishing goes.

spawn of game and commercial fish occurs. Young fish have an abundant source of food and thus their mortality rates are reduced and growth rates increased. Food in the form of fish, crawfish, insects and plankton is plentiful for important game fish species. The whole fish population rapidly expands in numbers and weight.

Excellent backwater fishing is found in the flood plains of the Red and Atchafalaya Rivers. Examples of large backwater areas in the Red River watershed are the Spring Bayou Management Area near Marksville and Saline-Larto Lake complex adjacent to the Saline Management Area in LaSalle and Concordia Parishes. Numerous other smaller but productive backwater lakes are found in the lower reaches of the Red River. The lower half of the Atchafalaya River drainage is characterized by an extensive network of backwater lakes. Henderson Lake and the Upper Flats are two large backwater areas that have received heavy fishing pressure in recent years. Increased boating access and the desire of many fishermen to seek "new territory" has resulted in the recognition of the excellent sports fisheries of this vast complex of backwater lakes.

The shallow coastal lakes often associated with streams at their confluence with the Gulf are exemplified by White Lake, Grand Lake, Lake Salvador and Lac Des Allemands. Crappie, bass, bream and catfish fishing is excellent in these lakes and associated marshlands. These lakes also serve as important nursery areas for estuarine species when stream flows permit development of brackish conditions.

IMPOUNDMENTS

The man-made reservoirs of Louisiana are located mostly in the northern and central sections of the state where land terrain and surface runoff permit the impounding of large areas of water. Until recently, most of these impoundments were less than 15,000 acres in surface area and less than 10 feet in mean depth. The creation of the 182,000-acre Toledo Bend Reservoir on the Sabine River with a mean depth in excess of 75 feet has made large reservoir fishing available to Louisiana residents.

Most of the early impoundments in the state were created in the Red River floodplains where small dams could impound 7 to 10 feet of water in a backswamp that occurred near a ridge. Some

Whether you fish from a boat, or from a rustic pier; Louisiana angling is tops. Catfish, such as this one, are considered delicacies and it is hard to beat a catfish fry for downright enjoyment. Served with french fries or hush puppies, catfish will challenge any fish for culinary appeal on the table.

A typical fishing scene on a Louisiana stream, this is a section of Cross Lake. Its cypress-lined banks provide a serene atmosphere for fresh water fishermen. Bass, bream and crappie are found in the shallow, shaded areas during warm summer days, offering excellent fishing.

of these early impoundments were Black Bayou Lake, Caddo Lake, Cross Lake, Lake Bistineau, Black Lake, Saline Lake and Chicot Lake. Interest in fishing following World War II resulted in creation of Iatt Lake, Anacoco Lake, Cheniere Lake, and Kepler Creek Lake. Recent impoundments include Bundick Lake, Vernon Lake, D'Arbonne Lake, Lake Claiborne, Cotile Lake and Nantachie Lake. The recent creation of Toledo Bend Reservoir gives Louisiana fishermen in excess of 350,000 acres of impounded waters.

Good fishing is to be found in most impoundments of the state, particularly those that have been constructed in the alluvial floodplains. Soil fertility in these floodplains results in an annual production of approximately 250 pounds of fish per acre of impounded water. Impoundments constructed in poor sandy soils usually produce less than 150 pounds of fish per acre.

As a new impoundment such as Toledo Bend Reservoir ages, the fish population gradually changes. The fish population expands rapidly during the early years after impoundment due to the increase in number, weight and size of fish. This is the same phenomenon experienced during annual river overflow into a backwater lake. This expansion does not continue, though after about five years and a more or less static relationship soon develops between forage and predaceous species of the overall fish population. Usually the relationship between these two major groups of fish is favorable for continued satisfactory fishing as an impoundment ages.

Occasionally the balance between forage and game fish becomes unsuitable for fishing in a Louisiana impoundment. One of the best tools of lake management to improve this balance is a modification of the natural water fluctuation cycle that occurs in backwater lakes. Water levels are lowered in the impoundment, thus concentrating the entire fish population. Predaceous fish such as bass and crappie prey heavy on the abundant forage fish. The lake is refilled following a period of two to three months of low water. Game fish species that have foraged heavily are now in top shape for spawning and produce large amounts of young as the lake is refilled. Artificial water fluctuation programs have also been used in impoundments that exhibit certain types of troublesome vegetation. This management tool has been used in recent years in Anacoco Lake, Bundick Lake and Chicot Lake with results being very favorable toward the control of submergent vegetation and increasing fishing success.

STREAMS

The flowing waters of Louisiana are represented by creeks, bayous and rivers. These waters are probably the most neglected fishing habitats in the state.

The small, swift flowing streams are found in the hilly portions of northern, western and southeastern Louisiana. Six-mile Creek in Vernon and Beauregard Parishes is an excellent example of an unmodified creek. Here fast flowing water passes through a forested area with numerous riffles and pools throughout the stream length. Spotted bass, warmouth, crappie and longear sunfish lurk in the cool pools in anticipation of a drifting insect, darter or lure of a float fisherman. This scene is repeated often in tributaries of the rivers in the Florida Parishes.

Processes of man are rapidly changing the appearance and fish production in many Louisiana creeks. Pollution and drainage programs have modified the water quality and stream beds to the extent that the stream fish and fish food organisms cannot survive. Drift fishing in Louisiana may be a thing of the past if alert sportsmen do not speak out for the preservation of this unique fishing habitat.

Another important flowing water is the bayou of the southern section of the state. The word "bayou" is a Louisiana French word derived from the Choctaw Indian "bayuk," meaning creek or river. By no great stretch of the imagination the term bayou could quite accurately be applied to almost every type of stream with the possible exception of large rivers. In Louisiana this has actually been done, with named bayous varying tremendously in length, width, stream flow and other general characteristics. The waterway that most residents recognize as a bayou is a medium length and width stream that flows in sluggish manner through a stretch of moss-draped hardwoods.

The traditional bayou of story and song is typified by Bayou Barbary in Livingston Parish, Bayou Courtableau in St. Landry Parish and Saline Bayou in LaSalle Parish. They are medium in length and width, lazy flowing and have all the other physical accoutrements that go with the image of a bayou. Largemouth bass, sac-a-lait and big bluegill bream live in these black waters.

But then there is Bayou Bartholomew, which rises in Arkansas, tumbles its twisting path down through Morehouse Parish, and empties into the Ouachita River. It is, by Louisiana standards, clear, cold and swift. This is a superb home for the spotted bass.

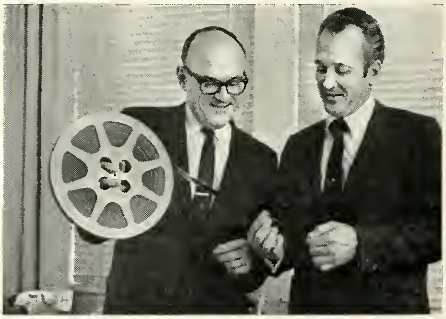
And there is Bayou Lafourche, a former distributary of the Mississippi River which winds its way almost 150 miles from Donaldsonville to the Gulf near Grand Isle. This is a major waterway, used tremendously by the fleets of boats engaged in offshore oil, gas and marine fishery resources harvest.

There are, therefore, many Louisiana bayous in name which fail to meet the picture image of a sluggish stream passing through moss-draped hardwoods. On the other hand, there are Louisiana waterways called rivers, creeks and bogues which do. No matter what they are called, such streams as Blind River, Colyell Bay, Corney Creek and the Bogue Falaya are "bayous" in the best tradition of the term.

The rivers of the state are seldom fished by sportsmen except during occasional periods of low flow. During late summer and fall, crappie and bass can often be caught in the plankton laden waters of the Red, Atchafalaya and Ouachita Rivers. In general though, only the commercial fishermen and the sportsmen who enjoy bank fishing for catfish will utilize the rivers as a fishing habitat. The rivers of the state though are a very important factor in the production of the fisheries of the backwater and oxbow lakes. During overflow periods, an exchange of nutrient laden water and movement of fish occur between the rivers and lakes. Modification of natural overflow conditions and water quality through drainage programs and pollution can markedly affect the aquatic life of these adjacent lakes.

Louisiana fishermen are blessed with an abundance of freshwater fishing waters. Savor to the fullest each opportunity you have to enjoy your favorite lake or stream and support all efforts to maintain or even better the recreation these waterways provide. ✢

Friends, fellow workers and the staff of the Information Section of the Louisiana Wild Life and Fisheries Commission express deepest sympathy at the passing of Ednard Trist Waldo on March 4. A former newspaperman and public relations executive, he served as a staff writer for the Louisiana Conservationist for the past 12 years.



Ralph F. Howe, left, Humble Oil Company's Baton Rouge Refinery manager, is shown presenting Louisiana Wild Life and Fisheries Commission Director Clark M. Hoffpauer with a print of "Wild Rivers," a 28-minute conservation motion picture. The motion picture, stressing the importance of preserving certain national, picturesque rivers in their natural state, will be used by the Commission in its conservation education programs. The film, made by Humble in cooperation with the U. S. Department of the Interior and with the technical assistance of the Department of Agriculture, depicts some of the nation's most beautiful rivers, ones which still retain much of their natural free-flowing character. The film also shows the various types of wild rivers which are accessible to all and the unique opportunities they afford for outdoor recreation. The movie, which endorses clean water and good conservation practices, may be borrowed free of charge from Humble's distributor, Modern Talking Picture Service, 715 Girod Street, New Orleans.

SHRIMP SEASON FACTS

Ted Ford

JUST HOW ARE the seasons for trawling in inside waters set by the Louisiana Wild Life and Fisheries Commission? This is a frequent question raised by many commercial shrimpers. It is also one that often enters the minds of sportsmen.

One hears remarks such as "It should have been opened earlier," or "It should have been opened later." There is often disagreement between commercial fishermen in different areas of the state about the periods during which inside trawling is allowed. This is also reflected in the views of sportsmen. Here are the facts:

The Commission has the responsibility of fixing the brown shrimp season for inside waters each year. The statutory framework provides for up to a 60 day season to open between May 1 and 25.

Beginning in April 1962, the Commission's marine technical personnel have met with representatives of the shrimp industry to discuss data relative to the current year's outlook for the production of brown shrimp. These annual meetings have been valuable in that they provided an informal opportunity to talk about shrimp with the shrimp people. The data discussed with the group is that which was compiled through much field sampling since the preceding January. These meetings are normally held the Thursday before the Commission's regular monthly meeting in April at which time the technical recommendations are presented.

Several problems have to be recognized and considered in deriving these recommendations. First, the relative abundance of baby or postlarval shrimp recruited to the nursery grounds needs to be known. Generally, the major influx of post-larval shrimp occurs between January and March. Their success depends upon the environmental conditions present on the nursery grounds. Major factors appear to be temperature and salinity. Other factors influencing the nursery grounds are river discharge from major streams, tidal ranges and prevailing winds.

Assuming that a good supply of postlarval shrimp reach the nursery grounds and survive because of favorable environmental conditions, then a good supply of juvenile shrimp can be expected. In addition to having sampled the major passes for movements of postlarval shrimp onto the nursery grounds, we begin looking for juvenile shrimp when water temperatures approach 68° F. Considerable sampling in the marshes is done to confirm their presence. Frequent sampling thereafter provides us with information to measure the growth of the existing population on the grounds, their relative abundance and general distribution. After carrying out this work for three to four weeks, it is then possible to project growth curves which will indicate the best time to open the season when 50 percent of the population will have reached a harvestable size.

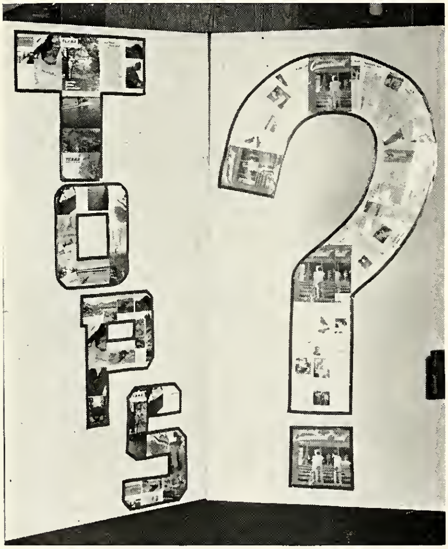
As a result of reviewing such data and discussing their implications with representatives of the shrimp industry, they have developed a much better appreciation for the biology of this animal and those factors which affect its density and the subsequent landings. This information suggests to some in the industry the extent to which they should go in planning to handle the current season's production.

The Commission's primary objective in conducting this program is to assist the shrimp industry in effectively utilizing the annual production of this resource and achieving the maximum economic gains for Louisiana. ✠

Here, in the shade of one of the Grand Terre Marine Research Laboratories, the actual briefing takes place. Those attending are furnished facts and figures obtained by the Oyster, Water Bottoms and Seafood Division and also have an opportunity to express their own views about dates for the "spring season" for inside trawling.

HIGHLIGHTS OF 30th ANNU

Keynote speaker at the 30th Annual Convention of the Louisiana Wildlife Federation was Clark M. Hoffpauer, director of the Louisiana Wild Life and Fisheries Commission. Subject of his address was "Goals of the Louisiana Wild Life and Fisheries Commission." He said that "goals" were things that had already been reached; and instead outlined a program of action that included every phase and activity of the Commission—an expanded program that inspired the delegates in attendance.



One of the eye-catching displays in the lobby of the Congress Inn Hotel where the Louisiana Wildlife Federation Convention was held was a large display made up of covers and inside pages of the Texas Parks & Wildlife magazine, depicting it as "Tops" because it had won first place among state publications at the American Association for Conservation Information level. It also showed the LOUISIANA CONSERVATIONIST as a question mark. Clark M. Hoffpauer later announced that in the near future editions of the LOUISIANA CONSERVATIONIST would be in full color, offering a challenge to Texas.

During his address, John S. Gottschalk readily admitted there had been a breakdown in communications between his bureau and Louisiana duck hunters. He assured delegates that the possibility of a September teal season had not been completely discarded and that the bureau would be prepared in time with new management techniques if such a season was deemed reasonable this fall. Gottschalk emphatically told those present that "things would really have to be tough before he would recommend a total closed season and that data on the mallards could not be collected before early August."

Charles F. Buckley, Alexandria, first vice president of the Louisiana Wildlife Federation in 1968, was named president of the group for 1969. Shortly after his election as president, he is shown outlining a program of action for the Louisiana Wildlife Federation for the year ahead. Two of the main objectives he mentioned were to increase the number of affiliated clubs in the federation and to see that resolutions adopted by the group were implemented and pursued. He maintained that follow-up action on all resolutions was the key to building a stronger federation—one of the finest in the country.

WILDLIFE FEDERATION CONVENTION

Robert LaFleur, chief of the Water Pollution Control Division of the Louisiana Wild Life and Fisheries Commission and Executive Secretary of the Louisiana Stream Control Commission, received the top award at the convention. In addition to the Governor's Award for the "Outstanding Conservationist of the Year", LaFleur also received a handsome book of wildlife paintings from a representative of the Sears-Roebuck Foundation. LaFleur was cited for outstanding contributions toward fighting pollution at state, national and international levels.

Hurley Campbell, left, a former president of the Louisiana Outdoor Writers Association, outdoor magazine publisher and writer, outdoor columnist, and current president of the Outdoor Writers Association of America, was winner of the "Conservation Communications Award" in the Governor's Awards program. It is sponsored by the National Wildlife Federation, the Louisiana Wildlife Federation and the Sears-Roebuck Foundation. Making the award is Arthur L. Darnsteadt, Jr., 1968 president of the Louisiana Wildlife Federation. In the background is James Ledbetter, a past president of the Louisiana Wildlife Federation.

H. B. "Cotton" Fairchild, left, a former member of the Louisiana Wild Life and Fisheries Commission who resigned in late 1968, was named "Conservationist of the Year" in the Governor's Awards Program. Fairchild, cited for his nearly six years of service to the Commission, was selected by the judges for his firm stand on many issues pertaining to conservation, his forthright efforts to purchase lands and wetlands to be permanently dedicated to wildlife and outdoor recreation, and for his efforts to stimulate interest in conservation at a youth level.

Richard K. Yancey, assistant director of the Louisiana Wild Life and Fisheries Commission, was named "Outstanding Conservationist of the Year" by the Louisiana Outdoor Writers Association. Shown at left, congratulating Yancey, is Dan Hardesty, outgoing president of the state outdoor writers association. Yancey was selected for the award primarily for his continued efforts through the years to bring about more logical and reasonable seasons and bag limits on waterfowl for Louisiana hunters.

Arthur L. Darnsteadt, Jr., left, retiring president of the Louisiana Wildlife Federation, is shown congratulating the 1969 officers. With Darnsteadt, from left, are Charles F. Buckley, Alexandria, president; W. H. "Andy" Anders, Monroe, first vice president; Carl E. Fontenot, Lake Charles, second vice president; Francis J. Braud, Norco, secretary; and Ralph R. Kling, Sr., Gonzales, treasurer.

Savory Seafoods from Convenient Cans

Lyn Dysart

SUCCULENT. Savory. These words can only describe seafood—prime ingredients for the tastiest dishes ever to titillate a palate at any time of the year.

What's your pleasure? Shrimp? Oysters? Take your pick and open a can for the ultimate in appetite excitement and cooking convenience. There's nothing better for a piece de resistance at an elegant sit-down dinner than shrimp or oysters freshly canned from the waters of the Gulf. It's a snack you want? What could be better than to zip open a can of the tasties and nibble a few morsels?

For the expert and amateur chefs in the crowd who want to try something new and exciting, the home economists of the U. S. Department of Interior's Bureau of Commercial Fisheries have developed tantalizing recipes for canned shrimp and oysters.

You'll love them! ✠

SCALLOPED OYSTERS

2 cans (7½ or 8 ounces each) oysters
¾ cup dry bread crumbs
¾ cup unsalted, cracker crumbs
dash pepper
½ cup butter or margarine, melted
¼ teaspoon Worcestershire sauce
1 cup milk

Drain oysters. Combine crumbs, pepper, and butter. Sprinkle 1/3 of the buttered, seasoned crumbs in a well-greased, round baking dish, 8 x 2 inches. Cover with a layer of oysters. Repeat layers. Add Worcestershire sauce to milk; pour over oysters. Sprinkle remaining crumbs over the top. Bake in a hot oven, 400° F., for 20 to 25 minutes or until brown. Serves 6.

SHRIMP THERMIDOR

3 cans (4½ or 5 oz. ea.) shrimp
1 can (4 oz.) mushroom stems and pieces, drained
¼ cup melted fat or oil
¼ cup flour
½ teaspoon powdered mustard
Dash cayenne pepper
2 cups milk
2 tablespoons chopped parsley
Salt
Grated Parmesan cheese
Paprika

Drain shrimp. Cover shrimp with ice water and let stand for 5 minutes; drain. Cook mushrooms in fat for 5 minutes. Blend in flour and seasonings. Add milk gradually and cook until thick, stirring constantly. Add shrimp and parsley. Add salt to taste. Place in 6 well-greased, individual shells or 6-ounce custard cups. Sprinkle with cheese and paprika. Bake in a hot oven, 400° F., for 10 to 15 minutes or until lightly browned. Serves 6.

OYSTERS BEIGNETS

1 can (7½ or 8 oz.) oysters
1 cup flour
½ teaspoon sugar
¼ cup butter or margarine
1 cup milk
4 eggs

Drain oysters well. Chop. Sift flour and measure. Add sugar and sift again. Combine butter and milk in a saucepan; heat over low heat. Add flour all at one time and stir vigorously until mixture forms a ball and leaves the sides of the pan. Remove from heat. Add unbeaten eggs, one at a time, beating thoroughly after each addition; continue beating until a stiff batter is formed. Add oysters to the batter and mix well. Drop the mixture by teaspoonfuls into deep fat, 350° F. Fry approximately 5-6 minutes or until brown. Drain on absorbent paper. Makes approximately 60 beignets. Serve with Cocktail Sauce.

COCKTAIL SAUCE

¾ cup chili sauce
¼ cup finely chopped celery
1 tablespoon lemon juice
1 tablespoon horseradish
½ teaspoon salt

Combine all ingredients and chill.

"Can-Venient" Ways With Shrimp

Can dandy shrimp . . . crisp from the sparkling waters of the Gulf . . . delightful . . . delicious . . . and deveined. Light for lunch; bright for brunch; and super for supper—singing in salads; sparkling in sandwiches; and crafty in casseroles . . . the ultimate in "can-venience."

According to history, the first people to appreciate shrimp as a table delicacy were the Greeks. The Romans and others soon discovered the excellence of this seafood and at Henry V's coronation banquet, shrimp appeared on the menu. Nowadays, "shrimp" is a familiar prefix to Creole Gumbo, Bisque, Jambalaya, Curry, and New burg, to name but a few popular favorites. No longer reserved for the select few, canned shrimp has taken its place as an economical family food.

Shrimp canning in the United States began in a floating cannery off the Louisiana coast in 1867, and the same area currently leads in production. In addition, shrimp canning is a very important industry in Mississippi and Alabama.

In volume, shrimp is marketed in the following order: frozen, canned, and fresh. It should come as no surprise that more canned shrimp is marketed than fresh, for economical, ready-to-eat canned shrimp is available across the country the year round. This handy treat from the Gulf ranges from very small shrimp to the large sizes. Some homemakers prefer different sizes for different uses; while others prefer one size for all types of dishes. Preferences are sometime found to be geographic.

Most canned shrimp are packed in cans containing 4-½ to 5 ounces, drained weight, and are labeled as to size.

SHRIMP CHOWDER

(Lower Left)

3 cans (4½ or 5 ounces each) shrimp
¼ cup chopped onion
2 tablespoons melted fat or oil
1 cup boiling water
1 cup diced potatoes
½ teaspoon salt
dash pepper
2 cups milk
chopped parsley

Drain shrimp and rinse with cold water. Cut large shrimp in half. Cook onion in fat until tender. Add boiling water, potatoes, and seasonings. Cover and cook for 15 minutes or until potatoes are tender. Add milk and shrimp; heat. Garnish with parsley. Serves 6.

SHRIMP MACARONI SALAD

(Upper Right)

3 cans (4½ or 5 ounces each) shrimp
2 cups cooked shell macaroni
1 cup chopped raw cauliflower
1 cup sliced celery
¼ cup chopped parsley
¼ cup chopped sweet pickle or drained pickle relish
½ cup mayonnaise or salad dressing
3 tablespoons garlic French dressing
1 tablespoon lemon juice
1 teaspoon grated onion
1 teaspoon celery seed
1 teaspoon salt
¼ teaspoon pepper
salad greens
1 hard-cooked egg, sliced

Drain shrimp. Cover shrimp with ice water and let stand for 5 minutes; drain. Cut large shrimp in half. Combine macaroni, cauliflower, celery, parsley, pickle, and shrimp. Combine mayonnaise, French dressing, lemon juice, onion, and seasonings; mix thoroughly. Add mayonnaise mixture to shrimp mixture and toss lightly; chill. Serve on salad greens. Garnish with egg slices. Serves 6.

SHRIMP DE JONGHE

(Upper Left)

4 cans (4½ or 5 ounces each) shrimp
¾ cup toasted dry bread crumbs
¼ cup chopped green onions and tops
¼ cup chopped parsley
¾ teaspoon crushed tarragon
¼ teaspoon crushed garlic
¼ teaspoon nutmeg
¼ teaspoon salt
dash pepper
½ cup butter or margarine, melted
¼ cup sherry

Drain shrimp. Cover shrimp with ice water and let stand for 5 minutes; drain. Combine crumbs, onion, parsley, and seasonings. Add butter and sherry; mix thoroughly. Combine crumb mixture and shrimp; toss lightly. Place in a well-greased, shallow 1-quart casserole. Bake in a hot oven, 400° F., for 15 to 20 minutes or until lightly browned. Serves 6.

PATIO SHRIMP PLATE

(Lower Right)

3 cans (4½ or 5 ounces each) shrimp
1 large cucumber, sliced
Lettuce
Patio Shrimp Sauce

Drain shrimp. Cover shrimp with ice water and let stand for 5 minutes; drain. Arrange shrimp and cucumber slices on lettuce. Serve with Patio Shrimp Sauce. Serves 6.

PATIO SHRIMP SAUCE

1 cup sour cream
1 tablespoon horseradish
1 tablespoon grated onion
½ teaspoon paprika
½ teaspoon salt

Combine all ingredients and blend well.

THE COMMISSION'S ROLE IN

OUTDOOR RECREATION

Dewey W. Wills

EVERYONE SAYS it's so: "Louisiana—Sportsman's Paradise!"

From the time a toddler is old enough to hold a bamboo pole with a worm dangling in the water until he reaches the age when spinning tales is more frequent than spinning reels, the outdoors is like a second home with Nature as the foster mother.

There's a fascination in the great outdoors that exerts a magnetic pull to draw the angler to the stream, the hunter to the field and the camper to the park.

City people, snatching every leisure hour, race to the places where the only noises are the splash of a stream, the song of a bird, and the call of the wild. Away from it all, the only sight for miles might be blue water, dense forests, open fields, or a glimpse of a deer.

Camping is fast becoming an associated recreational activity with hunting on many of our wildlife management areas.

The aquatic vegetation control section is continuously working to keep our waterways free of nuisance vegetation whereby fishermen, boaters, swimmers and water skiers can enjoy these water-oriented recreational activities.

Throngs of outdoor lovers seek solace in the clean, fresh air to try out a new lure in a bayou; to fight big game fish; to feel the thrill of a shot on target; or just to enjoy being alive.

This is what it's all about and it's up to the Louisiana Wild Life and Fisheries Commission to improve and protect.

For the sport of big game hunting, the Commission's Fish and Game Division manages 25 wildlife management areas, spreading out about 650,000 acres at the hunter's feet. On top of this, the commission owns six wildlife management areas for another 160,000 acres.

Deer hunters have flocked to the wildlife management areas, increasing from about 2,000 in 1955 to more than 50,000 hunters in 1968. About 3,000 deer are taken on the managed areas each year. A deer stocking program has provided huntable deer herds over most of Louisiana and is giving more than 1,000,000 man days of quality recreation annually, and approximately 35,000 deer are harvested each season in the state.

In addition to deer and waterfowl small game is hunted by thousands of sportsmen annually. A recent move to stock additional areas with turkey has begun to pay dividends and promises a great deal of additional high quality recreation.

Research on deer, rabbits, quail and squirrels has pointed the way to regulation liberalization that allows almost maximum use of native game

Shown above are Mr. and Mrs. Rodney Bergeron, Debbie and Rodney, Jr. of Baton Rouge, Louisiana, enjoying a family outing participating in one of south Louisiana's most popular sports—crawfishing.

species. Waterfowl research has provided useful data in combating unduly restrictive regulations. Improved dove research has directly resulted in a big increase in hunter opportunity.

An exotic game program is designed to find species of birds that will not compete with native game species and will furnish additional game to hunters.

Whether it's for floating down a bayou or lake in a pirogue casting lures and bracing for a strike, the fisheries section utilizes research and management practices to keep lakes, ponds and streams in top condition to increase fishing success and enjoyment.

For even more fun, the fisheries section stocks farm ponds for thousands of residents to catch something each year. This program runs parallel with intensive research on the proper development and sound management of farm ponds.

Stocking exotic fish species such as the striped bass and walleye is under way to add to the enchantment of the state's waterways.

A mud bug enthusiast will give a nod of approval to a most recent program focusing on research of improved crawfish farming, designed to yield valuable information on managing public crawfishing areas.

Fishing of any kind is lost without proper management of the waters. Working behind the scenes are sections such as river basin and aquatic vegetation control.

For the professional fisherman, the Oyster, Water Bottoms and Seafood Division keeps tabs on shrimp, fin fishes and shellfish to combine up-to-date information with previous research. Vital to the state's economy, these renewable resources found in their aquatic habitat add nearly $100 million to Louisiana's financial picture as well as furnishing recreational opportunity.

To conserve the quality of the state's water resources the Water Pollution Control Division keeps constant surveillance of the water bodies and works through a pollution abatement program. With the federal government, the division strives for a clean and safe water supply for Louisianians and thousands of outdoor enthusiasts.

Enhanced hunting, fishing and boating can only be available with the protective hand of the Commission's Enforcement Division. In addition to enforcing fish and game rules and regulations, agents sell the wildlife story and also teach hunting and boating safety.

Sound management, acquired through research and applied to our lakes, has resulted in furnishing many man hours of healthy recreation.

The Refuge Division insures a safe harbor for hundreds of thousands of waterfowl that winter in the state, thus assuring that an adequate supply of breeding birds will return to nesting areas in the North.

For the armchair sportsman, the commission's library of 250 films grants more than 1,200 loans each year to schools, groups, garden clubs, sportsmen's leagues, scout groups, civic and social clubs. More than 120,000 visitors a year wander through the Louisiana Wildlife Museum in New Orleans. Scores of programs a month are given to elementary and high school students besides giving summer assistance to youth groups at camp.

It's all for a single purpose—to give people a chance to relax and enjoy themselves in the great outdoors of Louisiana.

A sportsman's paradise? Millions of Louisianians can't be wrong. ✠

KINGSIZED FISHING IN . . .

TARPON TERRITORY

Jim Falkner

YOU'RE A BIG GAME fisherman, see. You've always wanted to catch a tarpon, because the big silver kings are so tough, give such a fight.

You've heard that the national average for landing hooked tarpon is one out of seven. And you've read in South Louisiana that Pelican State tarpon anglers are taking aboard three out of five.

So, you're figuring, why not find out who's the best active tarpon fisherman and go with him?

Good thinking.

Don't go.

Dr. R. J. "Sonny" Young, Jr. of Abbeville and charter Captain Walter Wise Miller of Vinton-Lake Charles-Cameron have compiled the best recent records in tarpon catching in Louisiana. It is assumed, then, that they're the best right now.

That statement, of course, will get you into the dangdest argument you've ever heard if you say it around a member of the Louisiana Tarpon Club, a collection of the best and most active silver king fishermen in the state.

An organization composed of about 100 members—they don't look for many members and hold only one meeting a year—the Louisiana Tarpon Club embraces 28 millionaires, it has been reported. And the remainder aren't exactly considered freeloaders. Well, except me.

But don't tell one of these hardheads that anybody is a better tarpon fisherman. That just opens the door to a two-hour tirade on the best method to catch a tarpon.

But if there are better tarpon fishermen in the state than Dr. Young and Capt. Miller, they haven't reported any fantastic catches. Young and Miller have consistently won most tarpon fishing competitions, and when they meet head-to-head, it's an amazing competition. And the taste of competition has sharpened each into literal tarpon-catching machines.

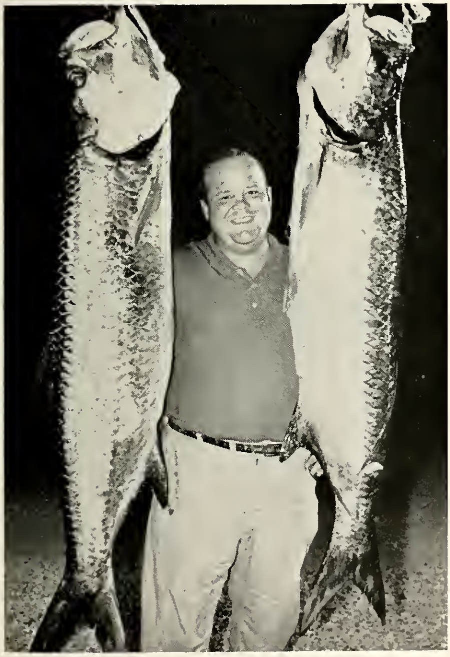
That, maybe unfortunately, holds for their crews, too.

That's why I say don't go tarpon fishing with Dr. Young or Capt. Miller.

Although there's absolutely no basis of truth in it, the rumor is that Dr. Young throws over his specially-altered Pet 21 spoons 20 miles up the Vermilion River and drags them clear across Vermilion Bay, through Southwest Pass and all the way to Tiger Shoal, which just may be the greatest overgrown tarpon-producing area in the world.

But if Dr. Young starts fishing a little early, the rumors are no kinder to Capt. Miller. Because his boat "Pirate" is slower, the word is that he starts trolling somewhere up around Prien Lake, through Moss Lake, south of Lake Charles, down the channel past Hackberry, across Calcasieu Lake, out Calcasieu Pass and then all the way eastward to Tiger Shoal.

Rumor has it, too, that Capt. Miller's crew shudders all the way to the tarpon grounds south of Marsh Island. They start out the day before a tarpon trip is to begin and they begin fishing for the leaping lenas right before daylight.



Author Falkner beams with pride. These are two of the tarpon he caught in the Vermilion Bay area below Marsh Island. Those waters abound in tarpon and are considered by many tarpon fishermen to be the most productive along the Louisiana coast.

The tarpon is certainly no slouch when it comes to fighting. It has stamina and speed. Without a fighting harness and belt rod butt cup, the average fisherman would soon find himself without a rod and minus the battling tarpon that was on the hook. Note the ready spoon and wire leader hanging behind the angler on the side of the boat. If the line breaks, the fisherman will quickly rig up and try for another one.

Miller doesn't let up until it's too dark to fish. And, usually, he's taken in his lines just a few minutes before Dr. Young, who doesn't hesitate to fish at night.

When Dr. Young's yacht "Koddy" and Capt. Miller's converted shrimp boat meet up south of Marsh Island, the rest of the fishing fleet is at a disadvantage—as are the tarpon.

Certainly, there are no harder fishermen than Young and Miller. No one gets there earlier or fishes later. No one works a school harder. And it's very probable that no one has studied their quarry with more determination.

But don't go fishing with either of them. By the end of the day your tongue will be hanging out.

So don't go—unless you want to catch tarpon.

They catch them by the boatload, usually releasing the big silver fish all season long, until the rodeos come along. Then it's the bloodiest fishing battle ever staged.

And, the two fierce fishermen have just about fought to a standoff.

And they have become the nucleus of a new, modern-day fleet of tarpon boats that are proving Louisiana waters' worth as first-class tarpon-producing territory.

Things are so hot south of Marsh Island that the tarpon fishermen have just about forgotten about the places the oldtimers used to haul in the silver kings.

They haven't forgotten Lester Plaisance, however. The father of the Golden Meadow tarpon fleet is the man who taught the tarpon anglers in the western waters of the state how to go about catching the mossbacks.

Dr. Robert J. Young, Jr., considered one of the best tarpon fishermen in the state is shown coaching Jim Falkner who has a tarpon on and is fighting it. The secret is to put pressure on the fish and let it wear itself down. No slack in the line is allowed, nor is too much pressure. It takes know-how to land a silver king. Hooking one and keeping it on the line is no easy thing. When you've accomplished this you're "hooked" for life on silver kings.

Featured speakers at the annual dinner of the Louisiana Tarpon Club in Baton Rouge recently were Governor John J. McKeithen and Clark M. Hoffpauer, Director of the Louisiana Wild Life and Fisheries Commission. Both spoke about a research program on tarpon that has been initiated by the Commission in full cooperation with members of the Louisiana Tarpon Club. Shown, from left, are Dave Willoughby, vice-president, secretary and treasurer of the club; Governor McKeithen; Walter Miller, club president; and Hoffpauer who is from Crowley. Miller and Willoughby are from Lake Charles.

The only man in Louisiana accorded the title "Tarponmaster", Plaisance has been so successful in years past that he and his family completely dominated the famous Grand Isle Tarpon Rodeo before he reduced the frequency of his trips into the Gulf of Mexico in recent years.

Dr. Young admits that he and his outstanding fellow anglers from Abbeville located the tarpon south of Marsh Island and couldn't catch them.

So, they went to the old master, Plaisance. He traveled west and literally taught the Abbeville fishermen how to go about catching tarpon.

It's evident they learned their lessons well. So well, as a matter of fact, that they've just about made everyone forget that the most Louisiana tarpon used to be caught in the mudlumps near the mouth of the Mississippi River.

The tarpon haven't moved. They're still at both places.

Just the fishermen have moved.

And the way Dr. Young and Capt. Miller and the rest of the Louisiana Tarpon Clubbers are moving, they may wind up with the most famous tarpon territory ever right under their noses. ✢

A Note On Trap

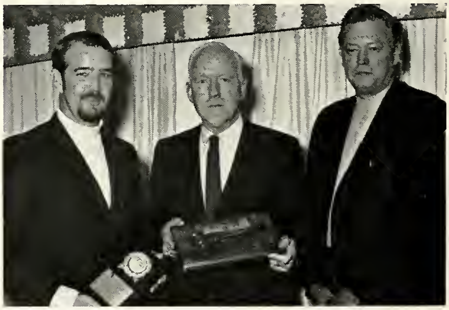
TRAP and SKEET are two separate shotgun sports. They are based on the shooting of clay targets thrown from a device known as a "trap."

Both TRAP and SKEET are organized sports with regulating national associations, formalized tournaments, and governing rules. They are shot over competitive fields of precise, constant specifications. Although both sports are followed throughout the world, their greatest popularity is in the United States.

Trapshooting dates back to 18th century England. Trapshooters (usually five in number for a "squad") fire from five adjacnt positions in a crescent-shaped formation 16 or more yards behind the "trap." Shooting is done in rotation with the person in number one position firing first and so on. Each person fires at an individual target. After each person fires five shots from a particular spot on the crescent, all move one position to the right until each has fired from all positions—for a total of 25 shots.

The "trap" is concealed in a low concrete building ahead of the shooters. Clay targets are thrown out of the building at various angles unknown to the shooter. The clay targets usually sail from 48 to 52 yards and in any direction within a 45-degree angle. A perfect score (25 consecutive hits) is called a "straight."

Doubles, where two targets are thrown simultaneously, are shot from the 16-yard line. A round accounts for 25 pairs, or 50 targets.



Officers of the Louisiana Outdoor Writers Association, meeting in conjunction with the Louisiana Wildlife Federation, elected officers of the association during the convention. Shown from left are Robert Dennie, president. In the center is Dan Hardesty, retiring president. Mike Cook, was reelected secretary-treasurer; and John Blanchard, not shown in the photograph was elected vice-president.

HIGHLIGHTS OF SPRING MEETING

Gulf States Marine Fisheries Commission

Lyn Dysart

HIGHLIGHTS OF the recent spring meeting of the Gulf States Marine Fisheries Commission in New Orleans included vital commercial fisheries reports from Washington, D.C., new trends in technology and proposed legislation.

From Washington, reports were given by Russell T. Norris, assistant director of resource development in the Bureau of Commercial Fisheries; J. D. Clem, chief of shellfish sanitation of Bureau of Compliance; and Lee J. Weddig, executive director of National Fisheries Institute, who commented on future fishery legislation.

Concentrating on the fishing industry at the meeting held March 26-28 in the Royal Orleans Hotel were Jim Smith, sales engineer for Sort-Rite Sales Corp., Harlington, Texas, who spoke on "Modern Technology of Unloading and Grading Fish, Shrimp and Shellfish"; and George Mollere, director of National Alliance for Businessmen, New Orleans, who discussed "Hard Core Job Employment and Training Program for Seafood Industry."

The current status of the Sea-Grant Program was given by Robert D. Wildman, project support office of Sea-Grant National Science Foundation, Washington, D. C. Dr. Harold Loesch, professor at Louisiana State University, Baton Rouge, outlined the Sea Grant Development at LSU.

Accepting an original painting as testimony to 12 years of service in the gulf area is Seton H. Thompson (right), retired regional director, South Atlantic and Gulf Region, Bureau of Commercial Fisheries, U. S. Fish and Wildlife Service. Shaking hands with Thompson is Virgil Versaggi, chairman of the Gulf States Marine Fisheries Commission which held its spring meeting in New Orleans. The painting presented to Thompson, of St. Petersburg, Florida, is by Joe Moran of Biloxi, Mississippi.

Special events centered around a testimonial to Seton Thompson, retired regional director of South Atlantic and Gulf Region, Bureau of Commercial Fisheries, U. S. Fish and Wildlife Service. A painting by Joe Moran of Biloxi, Mississippi, was presented to Thompson of St. Petersburg, Florida, honoring his 12 years of service.

A premiere showing was held of "Estuarine Heritage", a film produced in cooperation with the Bureau of Commercial Fisheries and Gulf States Marine Fisheries Commission. The film's teenage star, Gerald "Pookie" Warren of Mobile Alabama, received an appreciation award for his volunteer part in the cast.

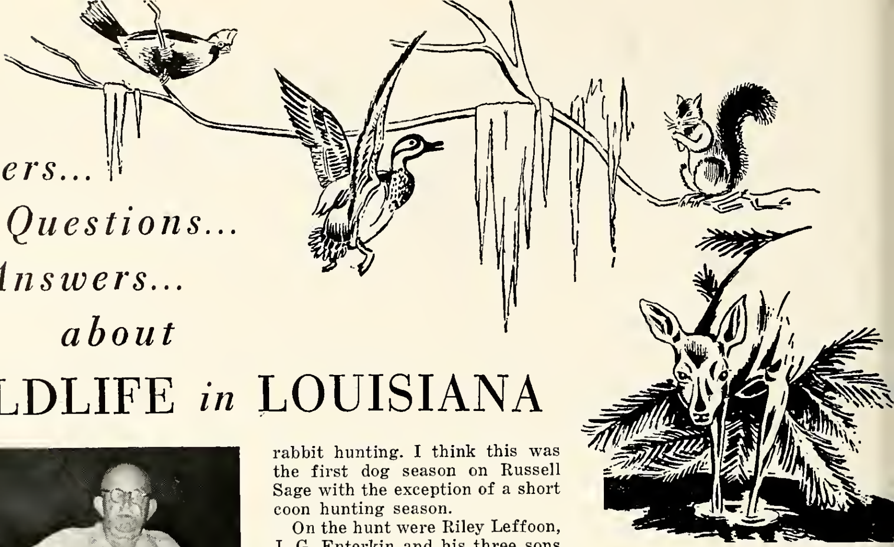
Other speakers at the meeting were Dr. Dayton L. Alverson, base director of Exploratory Fishing and Gear Research of Bureau of Commercial Fisheries, Seattle, Washington, on "Experiments in the Design of Selective Shrimp Trawls"; R. T. "Dick" Whiteleather, acting director of Region II, Bureau of Commercial Fisheries, St. Petersburg, on "Estuarine Protection Takes a New Turn"; and Charles Lyles, Bureau of Commercial Fisheries, Arlington, Virginia, on "Inrybprom—'68, Russia's Fishing Fair."

Committee reports were given by Dr. Ted B. Ford, chief of Oyster, Water Bottoms and Seafood Division, Louisiana Wild Life and Fisheries Commission, New Orleans, on Estuarine Technical Coordinating Committee; Terrance Leary, coastal fisheries coordinator of Texas Parks and Wildlife, Austin, Texas, chairman of the Mariculture Sub-Committee; and Robert Evans, regional and gas supervisor of Department of the Interior, New Orleans, on Fishing Industry Advisory Committee Underwater Obstruction Sub-Committee.

The meeting was presided over by Virgil Versaggi, commission chairman, of Brownsville, Texas.

The welcome address was given by Dr. Lyle St. Amant, assistant director of Louisiana Wild Life and Fisheries Commission in New Orleans.

Dr. Leslie L. Glasgow, former director of the Louisiana Wild Life and Fisheries Commission and newly appointed Assistant Secretary of the Interior, also attended the meeting and addressed the group at an evening session.



Letters... Questions... Answers... about WILDLIFE *in* LOUISIANA

Dear Editor: Ruston

Here is a picture of S. P. Colvin III displaying a 7 pound-9 ounce large mouth bass which he caught in Lincoln Parish using a speckled plastic worm. The fish was weighed by the Lincoln Parish Wild Life Association.

Colvin lives in the Cross-Roads Community of Lincoln Parish and is widely known throughout North Central Louisiana. He is an ardent fisherman and is active in the Lincoln Parish Wild Life Association.

I would sincerely appreciate your carrying the enclosed picture in the next issue of your magazine. I know that his many friends in this area would enjoy seeing it.

REP. GEORGE B. HOLSTEAD

Dear Editor:

Enclosed is a picture I thought you might like to use in the LOUISIANA CONSERVATIONIST. This picture was made on the Russell Sage Wildlife Management Area outside Monroe. This was opening day of the dog season for rabbit hunting. I think this was the first dog season on Russell Sage with the exception of a short coon hunting season.

On the hunt were Riley Leffoon, J. G. Enterkin and his three sons Roger, Dwayne and Derron. Derron is the youngster in the picture.

JOHNNIE G. ENTERKIN

Dear Editor: Metairie

Here is a picture of a 42 pound drum that I caught at the Rigolets railroad trestle on the far side of the channel. It was taken about 7 P.M. and I was using fresh shrimp for bait. It took me about 18 minutes to land the big one. All of the other fish were small drum. Frank Guttuso, left, is helping me hold the fish.

RANDY VALENTI

Dear Editor: Newellton

I am sending you a picture to put in the LOUISIANA CONSERVATIONIST of a wild turkey I killed April 10 on Jordon Plantation, owned by Norris and Reynolds in Tensas Parish.

I killed the turkey with a .410 shotgun. It weighed 18 pounds and 2 ounces; and had a wing spread of 65 inches, with a beard 8½ inches long.

MRS. DIXIE HERRING

Dear Editor: Monroe

Many of my friends have been receiving the LOUISIANA CONSERVATIONIST for years I understand that this publication is free of charge and I would like to be placed on the maling list. I read it with a great deal of interest and would like to receive it at my home.

JOHN M. SIMS

Dear Editor: Franklinton

I receive your magazine, "Louisiana Conservation." I like it very much and find it very interesting. I read about the Bouge Chitta River boat ramp. We'll probably put it to good use. I saw the large bass. I have seen the record bass caught on an artificial bait. In your future articles could you possibly have fishing tips. I haven't been having much luck.

CHARLES RAY FUSSELL

Dear Editor: Heflin

In behalf of the lady hunters of this area, I am writing to request that you remember us when you are planning next year's Deer Season.

This past season, it was next to impossible for us to do hardly any hunting during the "last" season, as it was our busiest time of the year (before Christmas).

With the shopping, decorating our homes, and much baking and planning for our families, we were confined to our homes, rather than do any hunting.

Heretofore, how we loved to get in the woods after Christmas, for a relaxing hunt. Away from cooking and eating too much.

So please remember us as you plan for next year's Deer Season.

MRS. NORMA WARD

Dear Editor:

Shown in the picture from left are Dr. Roy Nickles and Sonny Randon after a duck hunt on the second to last day of the season. Lanny Russel, not shown because he was taking the picture, was on the hunt also.

We would appreciate having this in one of your issues as this was my first duck hunt and we are all ardent readers of your publication.

SONNY RANDON

The American Fisheries Society from time to time published common and scientific names of all recognized species of fish native to the United States and Canada. This organization currently lists the Kentucky or Spotted Bass as Micropterus punctulatus. *Apparently* pseudoplies *was the species name accorded this fish back in the 1930's. The Smallmouth Bass or Micropterus dolomieu does not occur in Louisiana. This fish's range extends as far south as northern Arkansas and into Northern Mississippi. Louisiana waters are too warm for this species to survive. Common names of fish can sometimes be confusing but generally when you hear someone speak of the Smallmouth bass in Louisiana he is referring to the Kentucky or Spotted Bass.*

Dear Editor: Westlake

In regards to your article "The Spotted Bass" in the January issue. Your writer states that the Kentucky Bass is called the southern smallmouth. That his latin name is "Micropterus punctulatus."

My encyclopedia states that the Kentucky Black Bass is Micropetrus pseudoplies. Is this another bass?

Another thing I would like to know is are there any "Micropterus Dolomieu" or true Smallmouth Bass in the state of Louisiana. This is very important to me.

We all around here call the Kentucky a smallmouth in the state of Louisiana.

I would like your opinion on this.

I couldn't write you and pass up the opportunity to tell you what a wonderful magazine you have and it is the one magazine that I look forward to receiving.

LEWIS M. APPLEBY

Dear Editor: Shreveport

I have become very interested in fishing Toledo Bend Reservoir since reading articles about this fairly new big fishing area in the LOUISIANA CONSERVATIONST. Could you tell me if it is legal to fish on the Texas side of the reservoir with a Louisiana fishing license? Some people tell me that I can and others say that I must have both a Texas and a Louisiana fishing license. Is it necessary to have both?

KENNETH H. JONES

Among organizations playing an active role in the promotion of National Wildlife Week March 16 through March 22 was the New Orleans Sportsmen's League. Hundreds of kits of conservation literature pertaining to the week were distributed to schools and civic groups and posters were placed in the city's schools and other prominent places. The league was also instrumental in having New Orleans Mayor Victor H. Schiro issue a proclamation. Shown, from left, are Stephen M. Redmann, a past president of the league; Clint Bridgeman, also a past president and chairman of the executive committee; and Mayor Schiro.

DATA FROM THE DEEP

Joe Yurt

DISCOVERY OF big game fishing in Gulf waters out of South Pass set the pulses of big league fishermen tingling a decade ago. For a half-dozen years or more they strained in the fighting chairs and battled fish they had never dreamed existed in the deep blue waters that were often located less than 20 miles from Port Eads.

Silver-blue sailfish, mighty marlin, hefty tuna, bull dolphin and speedy wahoo were their prey. Records were set and repeatedly broken by members of the New Orleans Big Game Fishing Club; and other big game fishermen who came from Florida, the Caribbean and Latin America.

They enjoyed the sport to its fullest. The sound of singing reels and the shouts of deck hands were all that mattered at first. Outstanding catches were toasted and admired at the docks at night. It was a new bonanza on the big game fishing trail that wandered from Australia to the Bahamas.

Then a few years ago, they began to wonder what had created this hot spot that annually attracts more big game fishermen who wander the world in search of the big ones. They started a tagging program and began releasing fish. Eventually, the club's officers decided upon a concerted research program.

A cooperative study between the Commission and the New Orleans Big Game Fishing Club was initiated in the summer of 1967 to learn more about the big game fishes off South Pass in the Gulf of Mexico. Measurement and observations of fishes taken include species, weight, standard length, total length, girth, sex and stomach contents. Additionally, observations relative to salinity, temperature, water conditions, rips and their composition, wind speeds and direction, weather conditions, and total fishing days and efforts are recorded. Correlations may be available in time which will be indicative of better fishing opportunities.

The big game fish inventory for 1968 was expanded over that of the previous year. Supplementing the data obtained during the 1967 season, was the addition of surface salinity readings, rip direction, and more detailed water temperature readings. Water temperature and salinity were classified according to the water color where the sample was taken. The study was extended through September and part of October which included the last tournament of the New Orleans Big Game Fishing Club. The extension provided considerably more data over the 1967 season.

Fishing effort in 1968 substantially increased over the same period in 1967. During the 1968 season, a sport fishing effort of 961 boats fished 3,088 lines for 5,801 hours, in pursuit of big game fish in the waters off South Pass, Louisiana. The greatest fishing effort was in the months of July and August, with a total of 676 boats fishing. In July, 375 boats accounted for some 256 big game fish. August ranked second with 301 boats catching 168 fish. June was third, followed by September and October.

An increase in overall catch of fish was noted during the 1968 season. Yellowfin tuna, blue marlin, bluefin tuna, wahoo, and dolphin were caught in greater number over the 1967 season. The increased fishing effort, however, could account in part for the increased success. White marlin and sailfish decreased in catches.

Yellowfin tuna showed the greatest increased catch. The total yellowfin tuna catch for 1967 was 50 fish, while in 1968, some 232 were landed. On many occasions large schools were reported feeding near the surface. Anglers attempting to fish these schools usually caught as many fish as desired. Of the yellowfin tuna landed, 143 were weighed. Their total weight was 11,727 pounds. Of the 232 fish caught, 108 were released; 16 of these were tagged. Stomach analysis of 124 yellowfin tuna showed a particular feeding preference for squid, mackerels, and hardtail jack. Male to female ratio was 61:63. The average male weighed 88 pounds and the average female 79 pounds.

The seasonal catch of blue marlin increased approximately 50 percent over the previous year. The total weight of the 71 marlin amounted to 17,076 pounds. Average weight of these fish was 240 pounds, with the females slightly heavier than the males. The fisherman could expect a female blue marlin caught in South Pass waters to weigh approximately 268 pounds and a male, 112 pounds. Only 55 fish were examined for sex determinations. Of these, 6 were males and 49 females. A similar study carried out by Erdman (1962) in Puerto Rico and the Virgin Islands waters found the opposite sex ratio for blue marlin in that area. Erdman dissected 328 marlin and found 263 males and 65 females. Peak catches in this area were made in the month of September, while at South Pass the most successful month was July.

At no time during this study were blue marlin found to contain gravid gonads. Gonads were studied by cross-sectioning for visible milt or eggs.

Analysis of the stomach contents revealed dolphin to be the chief food item found in thirteen of twenty-six marlin examined. Dolphin were generally the most important food item in terms of both number and volume.

Biologist Joe Yurt is shown examining the stomach contents of a blue marlin taken in waters off South Pass. Collection of data on big game fish in Louisiana waters continues under a cooperative program between the Louisiana Wild Life and Fisheries Commission and the New Orleans Big Game Fishing Club.

STOMACH ANALYSIS OF FISH EXAMINED IN 1968 SEASON

	No. of Stomachs Examined	*Common Name of Food Item Found*	*Frequency of Occurrence*
Yellowfin Tuna	124	squid	71
		mackerel	37
		hardtail jack	28
		moonfish	12
		jellyfish	9
		dolphin	7
		Portunid crabs	5

	No. of Stomachs Examined	*Common Name of Food Item Found*	*Frequency of Occurrence*
		cutlassfish	3
		flyingfish	2
		bonito	2
		tuna	1
		triggerfish	1
		swellfish	1
Blue Marlin	55	dolphin	13
		hardtail jack	8
		bonito	5
		blackfin tuna	4
		squid	4
		amberjack	1
		Portunid crab	1
		flyingfish	1
White Marlin	75	hardtail jacks	24
		squid	21
		mackerel	19
		dolphin	16
		flyingfish	2
		cutlassfish	2
		moonfish	2
		triggerfish	2
		swellfish	1
		remora	1
Sailfish	23	hardtail jack	10
		squid	7
		mackerel	6
		cutlassfish	4
		dolphin	1
		amberjack	1
Dolphin	135	triggerfish	28
		hardtail jack	21
		Portunid crab	19
		dolphin	15
		pompano dolphin	2
		flyingfish	14
		squid	14
		mackerel	12
		swellfish	5
		sargassumfish	2
		cutlassfish	1
		amberjack	1
Wahoo	62	hardtail jack	10
		mackerel	6
		dolphin	4
		flyingfish	3
		squid	3
		moonfish	2
		triggerfish	1
		cutlassfish	1

The white marlin catch for 1968 decreased slightly from that of 1967. Less marlin were raised and even fewer were landed. Possibly, the failure of the Caribbean current to fully materialize in the northern Gulf of Mexico caused the white marlin to scatter. This could drastically curtail the available seasonal supply of fish normally found at South Pass.

If white marlin deviated from their normal migratory route, why then were the blue marlin, dolphin and bluefin tuna not displaced? Several years of comprehensive study conducted by this agency and others could possibly produce a good explanation for the reduced numbers of white marlin observed throughout the 1968 season.

Although this was not an unusually good season for white marlin, 79 fish were weighed for a total of 4,324 pounds. Sixteen were tagged and released, bringing the total catch for the season to 95 fish. The sex ratio for the 74 fish examined was 15 males to 59 females. No gravid gonads were observed. The average white marlin caught this season weighed 54 pounds. July and August produced the best catches. Hardtail jack was the most important individual food item found.

The months of June and July produced 22 of the 30 sailfish taken this season. Total weight of 24 fish was 1,060 pounds, with an average of 44 pounds per fish. The largest sailfish caught was 78 pounds. Many boats reported raising small sailfish (15-25 lbs.); however, they were unable to hook these fish due to the large baits being trolled specifically for blue marlin.

The sailfish catch was considerably smaller than that of the previous year. More boats fished this year and caught less sailfish. For the same time period in 1967, approximately 50 sailfish were landed; whereas, only 30 fish (including those tagged and released) were caught this year. Only 23 stomachs were examined this season, with 17 containing food material. Hardtail jack was the most common food item found.

The catch of sizeable dolphin increased slightly over that of last year. Bull dolphin were present in large numbers along the blue water rip which remained well offshore for the most part. On 19 occasions dolphin were a nuisance to anglers attempting to fish close to the rip. Anglers' reports indicated a substantial increase in small schools of dolphin along the rips and around large grass mats.

The largest dolphin caught during this survey weighed 56 pounds and 12 ounces. It was a new State record for the species. Examination of all specimens brought to the dock was impossible. When large numbers of dolphin were brought in to be weighed, a representative number of the larger fishes in the catch were examined and recorded. On occasions when few were brought in, all available dolphin were examined regardless of weight or size. Total weight of 137 dolphin was 3,350 pounds. The average weight per fish was 24 pounds. Of 135 stomachs examined, 52 were empty. Triggerfish were the principal food item found.

The catch of wahoo for 1968 equaled that of 1967. On several occasions, especially during tournaments and rodeos, many wahoo were not weighed or recorded. Seventy-four of the 92 wahoo recorded weighed 2,046 pounds. An average weight of 27½ pounds per fish indicated that most of the wahoo weighed were large. It is estimated that this figure would be much lower if many of the smaller fish had been brought to the scales. Female wahoo were slightly heavier than males and outnumbered the latter by approximately 3 to 1. Females averaged 37 pounds each, while males averaged 22 pounds. Of the 62 fish examined, 34 were empty. The primary food item found was the hardtail jack.

Information gathered on wind velocity and directions as reported by the fisherman is shown in the following table:

	No.	*Velocity*		*Average*
Direction	*Days*	*Low*	*High*	*MPH*
Northerly	36	3	22	9.9
Southerly	60	1	22	7.7
Easterly	19	2	20	10.4
Westerly	3	5	10	7.8
Variable	10	5	18	9.5

The most important single factor affecting the volume of big game fish caught on a given day would be the location and quality of the "rip tide." These rips tend to concentrate floating material such as sea weed (sargasso), and various other forms of algae and trash to form a temporary cover that attracts fishes of every shape and form. Small fish seeking refuge from the open ocean are drawn to this material and henceforth are concentrated into a relatively restricted area. Large pelagic fishes are attracted to this abundant food supply and appear to remain in the area until it diminishes.

The fishing season of 1968 covered a period of 130 days of which 116 were fished. Rip was recorded for 88 days at an average of 24.19 miles from the sea buoy. The minimum distance from shore where this current was found was 8 miles and the maximum 55 miles. Results of the 1967 survey recorded a minimum of 10 miles and a maximum of 50 with the average distance from shore being 23.25 miles. In 1968, fishermen could expect to fish a rip at approximately 24 miles out and running in a compass course of (NE-SW) 61% of the time. Other rip directions recorded during this season were: (E-W) 22% or 20 days, (N-S) 10% or 9 days, and (NE-SE) 5% or 5 days. These percentages are based on the 88 days that a rip was located in 1968. Records were not kept on rip direction in 1967.

Results of the 1968 survey augmented with that collected during the 1967 investigation have provided valuable data on these important fish. For many years, such fishes have been exploited for commercial and sporting purposes in many parts of the world. Many areas are renowned for their catches of one and, possibly, two individual species of big game fish. Here, in the waters off South Pass, more than six species of big game fishes are available in fishable concentrations. Continued fishing effort will result in expanded research by interested individuals and agencies to more fully understand the resource provided to us by the junction of two mighty current systems. These currents being the northward flowing Caribbean current and the southward moving nutrient rich waters of the Mississippi River. We propose to continue this cooperative effort in 1969, and expand our facilities for collecting and analyzing these data to more fully utilize this valuable resource. ✠

A Note On Skeet

Skeet Shooting is an American invention, circa 1910. The word "skeet" itself is an archaic Scandinavian word for "shoot." The average skeet squad is composed of five people each of whom shoots a round of 25 shots. The similarity to trap shooting ends there.

The skeet field is laid out in a semi-circle (or half-"clock") with eight stations for shooting. Seven stations are positioned at equal distances on the perimeter of the "clock" with the eighth in the middle on a line between position one and seven. (Station one would be the numeral "12" on a clock; position seven would be the numeral "6".) High targets are thrown from station one at one end of the semi-circle; low targets from station seven at the other end. The trap houses at station one and seven are called the "high house" and "low house." Targets are always thrown in the same pattern of flight, but the angle of the shot varies because the shooter changes positions as the skeet squad moves from station to station. Two targets are shot from each of the eight stations—one from each house.

Doubles, where targets are thrown simultaneously from both houses, are then shot from stations one, two, six, and seven. The 25th shot is called "optional," for it is a repeat of the first miss. If the shooter breaks all of his first 24, he can call for a target from any station or house as his optional shot.

The National Skeet Shooting Association is the regulating body of skeet and issues all rules governing the sport's formalized, registered tournaments. Skeet is shot over competitive fields of precise, constant specifications. Skeet is followed throughout the world with its greatest popularity in the United States.

AN UNPAID ADVERTISEMENT

If you're in a fighting mood about a conservation issue and want to sock it to somebody, send a Western Union Personal Opinion Message. According to their promotion literature, they'll telegraph a 15 word punch directly to the President, your Governor, Congressman, Senator or State Legislator for the low, low POM punch rate of 90¢.

They'll throw in your signature and address free to facilitate replies. And if you need it, Western Union Offices maintain a directory of elected representatives.

THE CRAB INDUSTRY

BLESSING IN BLUE

Judd Pollard and Lyn Dysart

A FAVORITE sit-down sport in Louisiana is eating boiled crabs.

And, if the table sportsman doesn't relish diving elbow-deep into claws and legs to pop the hard shell and scoop out the rich white insides, crabmeat can be savored in its soft shell or prepared a number of ways.

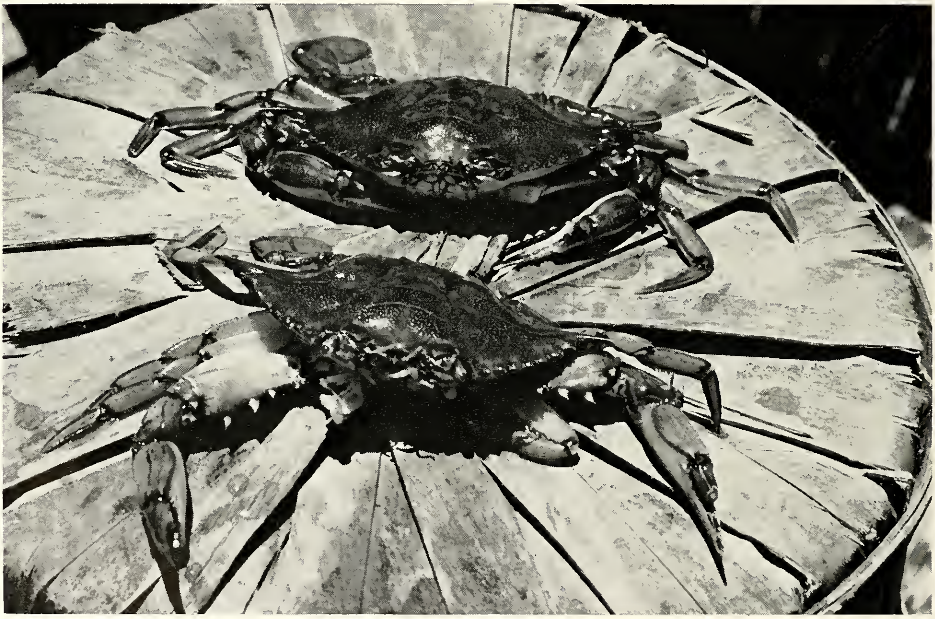
As diners relish the tasty morsels, Louisiana reaps the benefits of the blue crab as a major industry, at home and throughout the country.

One of the top ranking commercial production centers, Louisiana takes fifth place in the nation in pounds of blue crabs landed and net dockside dollar value. The U. S. Bureau of Commercial Fisheries' latest figures show that Louisiana pulled in about 6,828,000 pounds in the round (live weight) and about $715,000 last year for the blue crab.

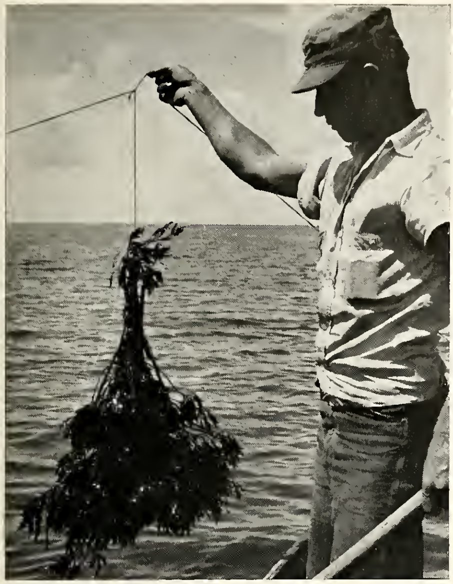
In the state, crabs also rank fifth place in natural or wild commercial fisheries, falling under shrimp, menhaden, oysters and fresh-water catfish.

Within the industry, methods of catching the valuable blue crab are undergoing a terrific change.

Popularity of trotlines with bait and drop nets seems to be waning. The trend is moving swiftly towards both amateur and professional use of the crab pot. A modification of the lobster pot, the crab pot has moved from the East Coast into Louisiana waters. Its attractiveness stems from



Figures for 1968 show that Louisiana's commercial crab fishermen caught about 6,828,000 pounds of blue crabs in the round (live weight). This netted the commercial fishermen about $715,000. Add the thousands of pounds of crabs taken annually by sportsmen and their families for backyard crab boils and it becomes evident that no one is singing the blues about blue crabs in Louisiana. The state estuarine waters are big producers of crabs; and going "crabbing" is a common expression.



Crabs have to shed their hard shells in order to grow. During the hours when the new shell is paper-thin, crabs are vulnerable. They seek hiding places and one way to fish for them is to create clumps of willow branches that are suspended in the water at intervals along a "line." The soft shells seek sanctuary in the branches and the commercial fisherman works the "line" at intervals collecting hiding soft shells.

efficiency, inexpensiveness and the time saving quality of the operation.

The brush trap method is designed to catch the soft shell and peeler crabs although various ways to catch the hard shell are used to some extent. Employed primarily in Louisiana, the brush trap takes advantage of the need of the shedding peeler crab to hide while lacking his protective hard shell.

Added to its delectability, the softshells are a valuable asset to the industry. Although the soft shells comprised only about two percent by weight of the total Louisiana crab catch in 1968, the dollar value netted 20 percent of the year's haul. The price per pound for Louisiana softshells was roughly double the average nationwide price.

Biologically speaking, the blue crab's proper name is *callinectes sapidus* Rathbun. Broken down systematically, the crafty member of the crustacea class belongs to the phylum arthropoda with his jointed legs, the order decapoda with his 10 legs and the family portunidae since his last pair of legs are modified to form swimming paddles.

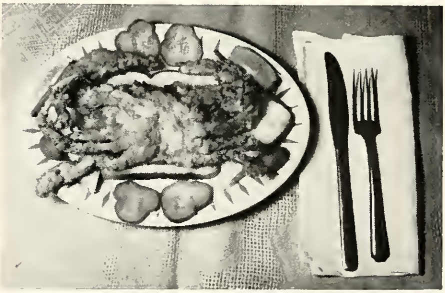
The crab shares his aquatic home in Louisiana's estuaries with other creatures of the region. To insure safety of the habitat and the continual population of the waters, a two-fold effort is underway focused on management of the crab fishery in Louisiana.

A direct effort enforces regulations on si limits of saleable crabs, to prohibit taking crabs in the "berry" stage when carrying eggs or with young attached to the abdomen, and to prohibit the trawling for crabs exclusively.

Indirectly, programs of the Louisiana Wild Life and Fisheries Commission and other agencies are protecting the crab and other aquatic animals by preventing pollution of the coastal waters and marshes.

To promote better understanding of the life history and the dynamics of the crab population, the Oyster, Water Bottoms and Seafood Division of the Louisiana Wild Life and Fisheries Commission currently is in the midst of a coastwide study of estuaries. The broad scope of the program does not focus on crab research, but results of the study can be applied to crab fishery management.

Because the blue crabs are abundant on the East Coast as well as the Gulf Coast of North America, scientific research and conservation practices are being evaluated elsewhere in the nation for the fullest use of this important resource.



Many seafood places serve boiled crabs, highly seasoned and consumed with relish. The same is true of the backyard feast. This generally consists of boiled crabs, served cold or chilled. In all of the restaurants dealing in seafood, the soft shell crab is considered a gourmet's delight. Its paper-thin shell is deep-fried to a golden brown and when served with tartar sauce and perhaps a side dish of French fries, some folks will tell you there is nothing better to take the edge off an appetite.

Back at home, the Louisiana Wild Life and Fisheries Commission Marine Laboratory on Grand Terre Island in Jefferson Parish is testing the possibilities of salt water pond culture. No real attempts have been made as yet to raise crabs in ponds or artificial impoundments but by meeting certain conditions, the consensus is that the crabs would do well. The crabs probably would not reproduce in a small area, but if they were put into an area at an early age, and fed regularly, they should grow somewhat faster than their kin in the open waters. The recent completion of 16 additional culture ponds on Grand Terre Island will provide limited research in the future. ✠

NEW RECREATIONAL LANDS

SABINE ISLAND

Jack A. Sims and Lyn Dysart

LEAVE THE CARES at home and trailer your boat to the new Sabine Island Wildlife Management Area offering 7,143 acres of excellent hunting and fishing.

You'll be one of a few sportsmen on Big Island or Turner Island, because it's a watery task to reach the area at the western-most end of Calcasieu Parish.

The changing course of the Sabine River, which forms the western boundary, isolated the two-tract managed area from the mainland. Eastern boundaries are Old River and Big Bayou.

There's only one way to get there from shore—by boat.

Throughout the property, lazy sloughs and bayous provide easy access by boat into the area, offering excellent fishing at the same time. A sport fisherman's dream, the Sabine area will be open the entire year with only a valid fishing license required and a hunting license in season.

Don't forget the hunting opportunity. Leased as a wildlife management area last July, the islands have a small deer population but under the Louisiana Wild Life and Fisheries Commission game management program proposed there should be an increase in deer not too far away. The deer herd had remained low because of periodic flooding and uncontrolled running of dogs.

Duck hunting is mainly for wood ducks, although during certain times of the year, mallards frequent parts of the area. The Commission plans to permit waterfowl hunting; however, permanent blinds will not be allowed.

The typical Sabine bottom land-type islands sprout a good timber composition with a carrying capacity for a fairly high squirrel population. Primary timber species are oak, tupelo gum, cypress, black gum and sweet gum, all of which have been selectively harvested for a good stand of mast producing trees.

Traveling through the dense tree-filled land area or moving slowly on the water, the managed area could fill the role for the most satisfying type of recreation.

But it hasn't always been so peaceful.

Long before the Commission signed the 25-year lease with Ellen Bryan Moore, Louisiana's Register of State Lands, the Sabine Island swamps were the center of a tug of war between nations, states and private citizens for more than 100 years.

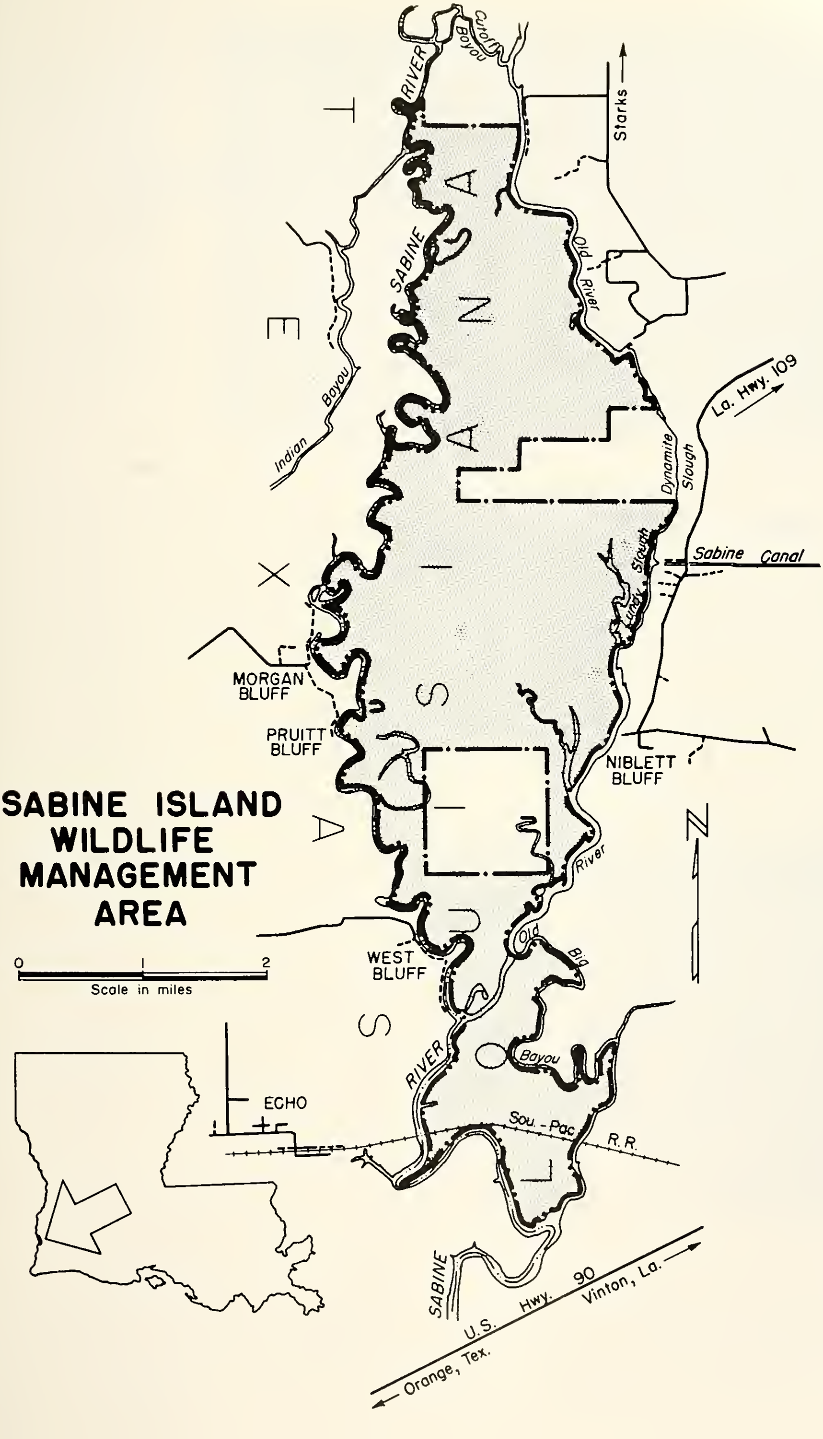
It all started in 1803 when France sold the dense, bayou-laced acreage to the United States as part of the Louisiana Purchase. But Spain didn't agree with that. Not until 1819 did Spain recognize the huge land transaction and that was about seven years after Louisiana gained statehood.

Later, after becoming independent of Spain in 1828, Mexico marked its eastern boundary line with Louisiana's western boundary that Mexico called the "West Bank of the Sabine River."

In turn, when Texas shook free of Mexico's jurisdiction, Texas also recognized the west bank of the Sabine River as the demarcation line.

But recognizing boundary lines between states and nations wasn't quite that simple. No one could

Laced with lazy bayous and sloughs, Sabine Island Wildlife Management Area offers abundant fresh water fishing. Practically untouched by sportsmen, and reached only by boat, these waterways offer unrivaled scenery and inviting recreational sport.



SABINE ISLAND WILDLIFE MANAGEMENT AREA

Timbered areas on Sabine Island Wildlife Management Area offer abundant small game hunting, particularly squirrel and rabbit shooting. Management plans for this area envision maximum use by sportsmen with a minimum of regulations consistent with the preservation of natural resources available. The size of the deer herd is expected to be increased when the area is provided with a permanent supervisor on duty at all times.

agree on which of two parallel bodies of water was the true Sabine River.

The matter seemed settled when a United States surveyor, George W. Walmsley, under a contract of July 24, 1857, determined that the main channel of the Sabine River was the most eastward of the two channels.

Acting on the official survey, the Lone Star State sold to private individuals lands lying between the two channels of the Sabine River to the most eastward channel.

Fifty years later, E. L. Gorham, surveyor of Calcasieu Parish, resurveyed the land area between the two parallel bodies of water on February 28, 1907. Gorham put the main channel of the Sabine River on the western most channel.

After years of wrangling in court, the General Land office ruled in favor of Louisiana. Title to the land areas was granted Louisiana under the Swampland Grant Acts of 1849 and 1850.

The ownership fight wasn't over yet. Once Louisiana's claim to the land was valid, a citizen of the state filed suit against Louisiana, claiming he was entitled to buy from the state. The story was that in 1907, Judge T. J. Duggan had deposited $15,000 with the Land Office for the purchase of about 10,000 acres of this land.

Finally the Supreme Court decided in favor of Louisiana and ended more than 100 years of conflicting claims and tug of war controversy.

Now, with the lease contract signed by the Wild Life and Fisheries Commission and the state, the victors are the hunters, fishermen and anybody who wants to enjoy the almost virgin recreational area of the Sabine Islands. ✣

Former Commission Director Leslie L. Glasgow, now Assistant Secretary of the Interior Department, is shown with Ellen Bryan Moore, Louisiana's Register of State Lands, holding the 25 year lease which created the Sabine Island Wildlife Management Area. The 7,143-acres management area will provide year around fishing and limited deer hunting, along with excellent squirrel and rabbit hunting.

KOZICKY HEADS WILDLIFE SOCIETY

Dr. Ed Kozicky, Director of Winchester-Western's Conservation Department at East Alton, Illinois, was inducted as President of The Wildlife Society during the 34th North American Wildlife and Natural Resources Conference in Washington, D. C. in early March.

A dedicated hunter and fisherman, Dr. Kozicky has written more than 100 publications on game birds, game management, and hunting, and has co-authored the book "Shooting Preserve Management—The Nilo System." He has received a meritorious service award from the U. S. Department of Interior in recognition of his leadership in wildlife research.

The 4,000-member Wildlife Society is the professional society of the nation's wildlife biologists, game managers, administrators, teachers, and other professionals in the wildlife field.

The Society's goals are to establish the highest professional standards, to develop all phases of wildlife management along sound biological lines, and to issue publications and information on wildlife. The Society publishes the *Journal of Wildlife Management* and *Wildlife Monographs.*

Habitat, Restocking, Enforcing — Expanding Turkey Populations

TURKEY MANAGEMENT

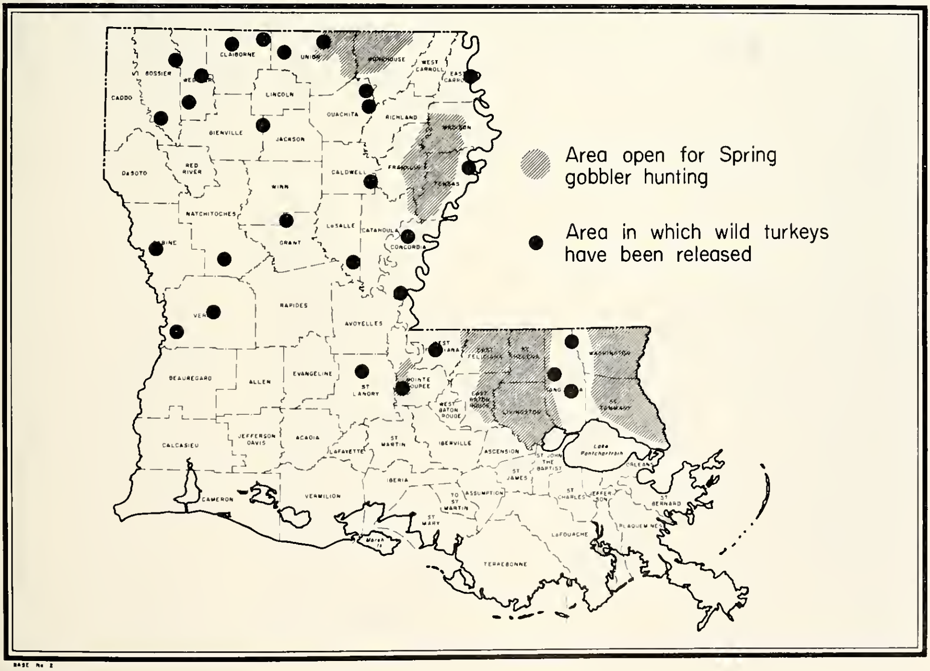
Cliff Williams

FROM THE BEGINNING of the history of our country to the present, the wild turkey has been of importance as a source of food for the early settlers and as a game species for our hunting population. This bird is native to North America, is shrewd, secretive in its habits and has a will to survive under the most unfavorable habitat conditions. This is indicated by its presence today in approximately 20 per cent of its original range.

It is estimated that one million wild turkeys once roamed the woodlands and fields of Louisiana, inhabiting all areas of the State except the prairie lands of the southwest, the coastal marshes and the lower Mississippi River Delta.

Between 1890 and 1924, however, loss of the virgin forests and inadequate protection led to a drastic decrease in the population of this "big game" bird. The decline continued until the late 1940's when the number of birds in Louisiana was approximately 1500. Total extinction of the State's turkey population seemed a distinct possibility. Since the 1940's our state-wide population has increased by several thousand birds and several million acres of forest lands in Louisiana now provide suitable but uninhabited turkey range. Central and north Louisiana show the most promise for turkey range expansion. Forest industries and woodland owners have been applying modern technology to the production of forest products for the past several decades and turkey habitat is becoming more favorable as the forest lands mature.

Wild turkeys are dependent upon large properly managed woodland areas which have a scattering of open territory, cultivated lands and a good water supply. Since this bird occupies habitat of this nature, the wildlife manager is just as con-



cerned about the future of our forests as is the forester and forest owner. Our success with future game programs will depend on the cooperation and planning of both parties involved.

A look to the "future" reveals more territory open for turkey hunting due to the combined efforts of the Louisiana Wild Life and Fisheries Commission, forest industries, interested residents and sportsmen of the State. A full scale wild trapping and transplanting program was initiated by the Commission about six years ago. This program is a slow one due to a scarcity of wild turkeys for restocking purposes, but over 500 birds have been transplanted in 28 new locations throughout Louisiana as a result of this endeavor. Birds have been obtained from northeast and southeast Louisiana, Alabama, Florida and Mississippi. If this trend continues, most of the forested regions of the state will have a wild turkey population and the annual state kill will be several thousand birds instead of a few hundred within 10-15 years.

The main purpose behind the Commission's transplanting program is the expansion of existing wild turkey range in order to provide additional outdoor recreation as well as reducing hunting pressure on the five small parts of the state where spring hunting is presently allowed. The stocking and protection of turkey on good well managed forests lands should provide new hunting territories for Louisiana sportsmen within a few short years. The turkey shows more potential for increased outdoor recreation than any other native bird within the State.

Participation in the sport of turkey hunting has grown tremendously and the number of hunters who attempt to bag a wild turkey has increased substantially recently. Hunting is not confined to any one group. It includes the ladies as well as the men, the old as well as the young, and the experienced as well as the inexperienced.

Management of the turkey in the past has dealt with restrictions on season and bag limits, season lengths, closed seasons and attempts at restocking with farm-reared birds. These have not been successful, yet the intention was good.

Only the present program, of restocking with wild trapped birds, the increased enforcement or protection of existing and transplanted turkey flocks and the continued sound forest management practices used by forest owners, shows any signs of success for this game bird. Besides being released in suitable habitat, the wild turkey needs protection. Newly transplanted birds will respond to management and increase rapidly if given a chance. This has been proven in several areas within Louisiana already. Even a minimum amount of poaching can hinder the spread and increase of this bird.

A wide variety of factors contribute to the fluctuation of native wild turkey populations. Of all factors involved, humans refuse to acknowledge that they themselves are one of the main limiting factors. Usually we place the blame of reduced populations on predators, disease, severe weather or food shortages. Don't sell them short for they all affect turkey populations.

Nevertheless, man is considered as the greatest enemy of our wild species whether he admits it or not. In some states the illegal kill on turkeys is estimated at 10 per cent and crippling losses during the hunting season at approximately 2-3 per cent. These figures may not be accurate, but illegal hunting does occur especially on young birds in the fall. This is not a reflection on Commission enforcement personnel because many violators are apprehended, even though they are hard to catch.

Today, due to the continued increase in the number of hunters, hunting is more for pleasure

Openings such as pipe line right-of-ways through well managed forests are essential for favorable turkey production. In this absence clearings should be made throughout turkey country where feasible.

Robert Davis, Rayville, Louisiana, was one of the successful turkey hunters on the Georgia Pacific W.M.A. in 1969. His 20 pound gobbler was one of the heaviest birds weighed during the nine day hunt.

and recreation than for the purpose of obtaining meat for the table. Gone are the days of excessive kills because present day bag limits prevents this. Most hunters abide by game laws, but some violators still exist.

Illegal hunting is thought to constitute a serious drain on turkey numbers in some parts of the State and is thought to be one of the main factors preventing a rapid increase in bird numbers. In order to make an effective stand against illegal hunters, it is essential that a satisfactory relationship between the public and Commission personnel be established and maintained. Many times our enforcement agents are at a disadvantage when an un-cooperative public occurs, but a good sound education program would improve relations considerably. Much progress has been made along this line in recent years.

Without the support of the public in regards to game laws, restocking activities and habitat improvement, it is impossible to carry out any program which will benefit the future hunter. The turkey is a bird which will respond to management and the Commission must continue to carry out the most practical method of turkey management. Since forest industries and private landowners have possession of the majority of the forested areas within our turkey range, it is only sensible that good public relations be maintained with them also.

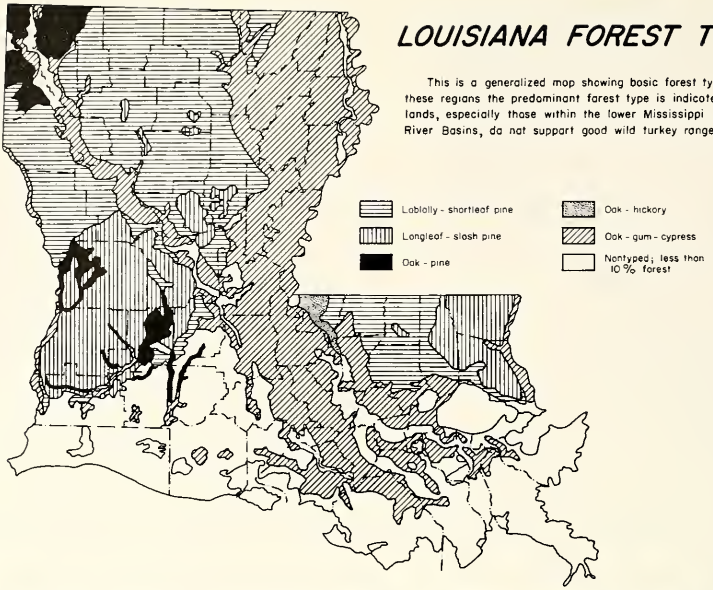
Commission personnel assigned to the 1969 Georgia Pacific W.M.A. turkey hunt chat with one of the many hunters who utilize this area. Roadblocks such as this were very beneficial in conducting this year's hunt.

Modern equipment is used in the harvest of timber grown scientifically on most forest industry lands. Logging and pulp operations provide forest clearings which serve as travel lanes and food producers for turkey, both young and old.

Remember! The Louisiana Wild Life and Fisheries Commission initiated a wild turkey trapping and transplanting program a few years ago. It is still continuing. Wild turkeys, whether native or restocked, need protection and even a minimum amount of poaching can hinder the spread and increase of this bird. Your Commission Enforcement Division is staffed by competent field personnel and you will find them friendly, helpful, but firm. If you become aware of any illegal turkey hunting, contact your local wildlife agent. You will be glad you did. Habitat improvement, restocking birds to new ranges, increased enforcement and improved public relations mean more turkeys for future hunters. ✠

LOUISIANA FOREST TYPES

This is a generalized map showing basic forest type regions. In these regions the predominant forest type is indicated. All forest lands, especially those within the lower Mississippi and Atchafalaya River Basins, do not support good wild turkey range.



Dr. Lyle S. St. Amant, Assistant Director of the Louisiana Wild Life and Fisheries Commission, is shown holding the plaque that was presented to him recently by the Alabama Fisheries Association in recognition of "Outstanding Contributions to Fisheries." The presentation was one of the highlights of the Alabama Fisheries Association's 1969 annual convention held in Mobile. Captain Joseph S. Ramos, president of the Alabama association made the presentation. A noted marine biologist, St. Amant formulated the present program of fisheries research headquartered at the Grand Terre Marine Laboratory, considered one of the finest on the northern Gulf of Mexico; and was Chief of the Oyster, Water Bottoms and Seafood Division prior to his appointment as Assistant Director several years ago.

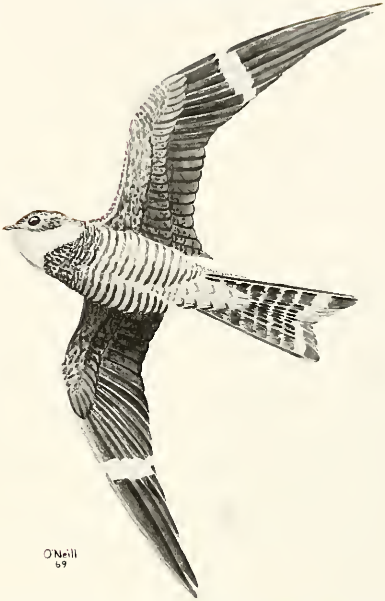
You may be next. Wildlife Enforcement Agent Frank Swayze checks the kill of Mr. Buster Taunton during the 1969 turkey season. Swayze is one of many Commission agents assigned to the task of enforcing game laws and conservation public relations.

During the winter months the fast launches of the fur buyers busily ply the Louisiana bayous seeking pelts taken by native trappers.

The Bird of the month

NIGHTHAWK

Chordeiles minor



Charles R. Shaw

THE COMMON NIGHTHAWK is a member of that somewhat mysterious group of birds known as "Goatsuckers". The latter name stemming from an old European folktale or superstition to the effect that the ground dwelling and sometimes low flying birds actually sucked milk from the goats. The wide gaping, large soft mouths reinforced this belief.

Throughout the southern states the name "Bullbat" is more commonly used, and in some localities "Mosquito Hawk". The latter descriptive name being derived from the feeding habits of the Nighthawk as it scoops up the various types of flying insects on which it feeds.

The slender wings have a noticeable white patch toward the tip and also a light colored throat patch, (white in the male and buffy in the female) which serve to help distinguish it from the Chuck-will's-widow and the Whip-poor-will, the other two Goatsuckers most commonly found in Louisiana. The Lesser or Texas Nighthawk, which also occurs in the state, has the wing patch much closer to the tip of the wing and also has a distinctive call which is not at all like the pee-ah or pee-ank of the Common Nighthawk.

The other characteristic sound made by the "Mosquito Hawk" is the deep boom made by the wings of the bird in its sudden steep dives earthward from considerable heights. This rather loud sound may have helped establish the name "Bullbat" throughout our area.

All of our Goatsuckers are fairly well camouflaged and in the case of the Nighthawk this is accomplished by having the upper parts of mixed black, grays and browns while the underparts are whitish, heavily barred with blackish in the male but with a buffy tint barred with blackish in the female. This coloration is quite helpful to the nesting birds which merely use a depression in the ground or gravel in most instances, without even attempting the usual nesting structures as constructed by most birds. With the advent of numerous flat gravel roofs in our rapidly expanding cities, these have been utilized to a considerable extent by the Nighthawks, thus adapting to urban life which usurped their traditional country living space.

Two eggs, white but heavily spotted with gray, are laid in the nest which is almost always placed out in the open rather than in heavy cover such as is found in the woods. Although the legs and feet of the adult birds are weak and they have lost much of their ability to move easily on the ground, the young birds have no such trouble and can run quite swiftly when necessary to evade some of the dangers common to young birds on the ground.

The Nighthawks feed primarily during the evenings, being especially active and noticeable just at dusk. On cloudy, heavily overcast days, and in advance of storms, they may often be seen feeding during daylight hours. The food is composed almost entirely of flying insects of many kinds, with the larger species such as the dragonflies having preference, but when plentiful great numbers of smaller types such as flying ants or mosquitoes are consumed with gusto.

Our Nighthawks are not actually year-round residents as they show up in Louisiana during the latter part of April and early May, stay around all summer and about October head back south again to their wintering grounds in South America.

These beneficial and interesting birds, are, of course, under the protection of our laws but the perpetuation of our wildlife and other natural resources depends not on legislation but on the interest and attitudes of all our citizens. ✢

Illustrated by John O'Neill

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(Photograph by Paul Kalman)

RESEARCH PROGRAM ON LOUISIANA'S BIG GAME FISH PROGRESSES AND NEW DATA OBTAIN

White Marlin

The cooperative study between the Louisiana Wild Life and Fisheries Commission and the New Orleans Big Game Fishing Club, initiated in the summer of 1967, continues. Efforts to learn more about the big game fishes off South Pass are being expanded and each passing year finds more data collected. A marked increase in the overall catch of big game fish in 1968 as compared with 1967 was made.